## University of Dayton eCommons

## 2012-2013 Bulletin

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## Undergraduate Catalog

The character of the University of Dayton is defined by our search for knowledge. Knowledge that changes the way we perceive the world. Knowledge that solves problems and helps make our lives better. Knowledge that creates a more humane and compassionate future for all of us.

Whether you're investing $\$ 14$ million of the University's endowment or assisting with research that makes space exploration safer, the University of Dayton's academic programs encourage you to engage the world, developing a critical mind and a compassionate heart.

In the undergraduate academic information section, you can continue your search for knowledge - and locate specifics on various academic areas and the programs and courses they offer.

## General Information

Of course, there's more to your academic experiences than just the classes you take. In fact, the University is known for its innovative approach to blurring the lines between learning and living to create a vibrant, engaging community dedicated to moving the world forward.

Whether you're looking to learn more about admission, student services, student costs and finances, or other facets of life that support your academic career, you'll find the answers here.

## The University of Dayton

Founded in 1850, the University of Dayton is a private, coeducational school founded by the Society of Mary (the Marianists), a Roman Catholic teaching order.* Today, the University of Dayton is recognized as a top-tier national research university and one of the 10 best Catholic universities in the nation.
As a Catholic, Marianist university, our educational philosophy of openness addresses the needs of the whole person - challenging students' mind, body and spirit through real-world interaction. We ask thought provoking questions and strive to answer them together, in an effort to create a more informed world for everyone. Our faculty members are excellent scholars and instructors, contributing significantly to society and inspiring their students to think critically and create meaningful change.
Inclusiveness of all peoples, cultures and religions defines the core of our Marianist tradition, and the University draws students of many faiths and economic, ethnic and social backgrounds from across the country and around the world.
At the University, we blur the line between living and learning to create a vibrant, engaging community dedicated to improving the world. Through student clubs, campus recreation, education abroad, research, servicelearning and career preparation, students are encouraged to engage the world, developing a critical mind and compassionate heart.

* The 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.


## Mission

The University of Dayton is a comprehensive Catholic university, a diverse community committed, in the Marianist tradition, to educating the whole person and to linking learning and scholarship with leadership and service.

The University of Dayton is a comprehensive university committed to offering a broad range of programs in liberal arts, the sciences, and the professions at the undergraduate level, to providing selected programs on the graduate level to meet the needs of the community and region, to sponsoring timely continuing education programs. As comprehensive, the University views learning and scholarship as a shared task of discovering, integrating, applying and communicating knowledge at the intersections of liberal and professional education, across the disciplines, and through combining theory with practice.
As Catholic, the University commits itself to a distinctive vision of learning and scholarship that includes: a common search for truth based on the
belief that truth can be more fully known and is ultimately one; a respect for the dignity of each human person created in the image and likeness of God; and an appreciation that God is manifested sacramentally through creation and the ordinary things in life. Ultimately, a Catholic vision of the intellectual life is based upon the acceptance of the revelation of God in Jesus Christ as it has been received and handed on by the Church. This challenge calls for integration of the human and the divine, reason and faith, and promotes true understanding through a person's head and heart. The University welcomes persons of all faiths and persuasions to participate in open and reflective dialogue concerning truth and the ultimate meaning of life.

Founded in the Marianist tradition, the University is committed to a vision of a distinctive educational community. As Marianist, the University focuses on educating the whole person in and through a community that supports and challenges all who become a part of it. The University forms an educational community thriving on collaboration by people from diverse backgrounds with different skills who come together for common purposes. The University as Marianist challenges all its members to become servant-leaders who connect scholarship and learning with leadership and service.
This university community-comprehensive, Catholic and Marianist-exists not for itself, but to render service. The University creates an environment in which its members, working in a scholarly manner, are free to evaluate the strengths and weaknesses of their own work and the work of others. In partnership, through the Research Institute, Campus Ministry, as well as numerous student organizations, the University works with others to improve the human community.

## Brief History

In the summer of 1849, Father Leo Meyer and Brother Charles Schultz, the first Marianist missionaries to America, journeyed from Alsace in France to Cincinnati, Ohio, where they intended to establish a base for the order in this country. They arrived, however, during a cholera epidemic, so 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 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 served as administrator, Brother Maximin Zehler taught, Brother Schultz cooked, and Brother Andrew Edel worked as 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 because most of the students were too young to serve. St. Mary's grew as 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 Hall, the largest building in Dayton, and called it "Zehler's Folly." The new "college department" moved into it in 1871. (St. Mary 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 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 1913 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.

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 was 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 adults in 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. The Dayton Marianists had survived cholera, smallpox, and influenza, wars, fire and flood, and (in 1924) a Ku-Klux-Klan crossburning 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 coeducational.
Enrollment had passed a thousand when World War II broke out. By 1950, with the return of the veterans, it reached more than 3,500 . In 1967, it topped 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 more than 10,000, with about 6,000 full-time undergraduates.
The University held its first general public fund-raising campaign in order to erect Wohlleben Hall in 1958 and Sherman Hall in 1960. Both campus and off-campus residences, residence halls, 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.

Long-range planning 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 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 Philips Humanities Center opened in 1993, and Joseph E. Keller Hall was built for the School of Law in 1997. In addition, the University has renovated Miriam Hall, converted its child care center into an early childhood demonstration school called the Bombeck Family Learning Center and completed the first phases of a modern Science Center. In 2002, the University of Dayton Arena underwent a modernization, placing it among the best venues for basketball in the country. The Donoher Basketball Center, a major addition to the UD Arena giving UD a premier basketball facility for both playing and training, was dedicated in 1998.

As the University of Dayton entered the 21st century, it built modern student facilities, including ArtStreet and Marianist Hall (2004) and RecPlex (2006).

The edifices are not the only changes on campus. 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 lay members now joined the Marianists on the Board of Trustees. In 1974, the School of Law reopened.

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 1992, the first doctoral degrees in educational leadership were awarded. In 1997, the Board of Trustees approved a doctoral program in theology with a focus on the Catholic experience in the United States. It was the first such doctoral program on a Catholic campus nationally.
In 1975, the Marian Library, which had grown to international renown 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. The Marian Library now holds the world's largest collection of print materials on Mary, the mother of Jesus.

For all undergraduates, a general education plan was adopted in 1983 to foster integration of the liberal arts in a professional education. 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.

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. Its graduate program in laser optics was one of the earliest in the country. It was one of the first educational institutions to adopt electronic data-processing equipment and to offer degrees in computer science. In 1999, the University of Dayton was the first in the nation to offer an undergraduate degree program in human rights. The University is currently developing partnerships with top universities in China, including Nanjing University, one of that nation's leading research institutions.
More than just a breeding ground for academic excellence, the University also responds to the needs of society and the region.

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 (UDRI) was formed to consolidate the administration of the growing research activities. Annual research volume has increased from $\$ 3,821$ in 1949 , to more than $\$ 85$ million today. The University of Dayton ranks second in the nation in funding for materials research.

Named for Brother Raymond L. Fitz, S.M., the University's longestserving president, the Fitz Center for Leadership in Community, founded in 2002, connects students and faculty to the community through service learning, social justice and ongoing involvement.
Among the University's other community collaborations is the Dayton Early College Academy, a public high school founded in partnership with the Dayton Public Schools. DECA, whose first class graduated in 2007, is the only charter school in the country operated by a Catholic university.
The University long-range plans include incorporating nearly 50 acres purchased from NCR in 2005. The land, lying between the academic core of campus and the Arena Sports Complex, increased the size of campus by nearly a quarter.
From its humble roots as a private boarding school for boys, the University of Dayton today ranks among the best Catholic universities in the country. It is the largest independent university in Ohio and draws students from around the country and the world.

## Statement of Purpose

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.

## Accreditation

The University of Dayton is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools http://www.ncahlc.org/ HLC phone: (312) 263-0456.
The University of Dayton is also officially accredited by the following agencies:

- The American Bar Association (ABA) for the School of Law
- The Association to Advance Collegiate Schools of Business (AACSB International) for the baccalaureate, accounting and Master of Business Administration programs of the School of Business Administration
- The Commission on Accreditation for Dietetics Education (CADE) for the didactic program in dietetics
- The Commission on Accreditation in Physical Therapy Education (CAPTE)
- The Council for Accreditation of Counseling and Related Educational Programs (CACREP)
- The Engineering Accreditation Commission of ABET (Accreditation Board for Engineering and Technology), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, ABET telephone: (410) 347-7700, for programs in chemical engineering, civil engineering, computer engineering, electrical engineering, and mechanical engineering
- The Masters in Psychology Accreditation Council (MPAC) for the Master of Arts program in Clinical Psychology
- The National Association of Schools of Art and Design (NASAD)
- The National Association of Schools of Music (NASM)
- The National Association of Schools of Public Affairs and Administration (NASPAA)
- The National Council for Accreditation of Teacher Education (NCATE)
- The Technology Accreditation Commission of ABET (Accreditation Board for Engineering and Technology), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, ABET telephone: (410) 347-7700, for programs in computer engineering technology, electronic engineering technology, industrial engineering technology, manufacturing engineering technology, and mechanical engineering technology

The University has the approval of the following:

- The American Chemical Society
- The Association of American Law Schools
- The Counselor, Social Worker \& Marriage and Family Therapist Board
- The League of Ohio Law Schools
- The National Association for Music Therapy
- The Ohio Board of Regents
- The State of Ohio Department of Education


## Institutional Memberships

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 Association of University Women
- The American Council on Education
- The American Dietetics Association
- The American Home Economics Association
- The American Library Association
- The American Society of Criminology
- The American Society for Engineering Education
- The Associated New American Colleges
- The Association of American Colleges and Universities
- 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 Advancement and Support of Education (CASE)
- The Council for the Advancement of Experiential Learning
- The Council of Graduate Schools
- The Council on Social Work Education
- The Dayton Area Chamber of Commerce
- The Dayton Art Institute (sponsoring)
- The Institute of International Education
- The International Federation of Catholic Universities (IFCU)
- 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 National University Teleconference Network
- 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 Campus Compact
- 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
* North Central Association

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http://ncahigherlearningcommission.org

## 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 and Allied Professions, 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
- Bachelor of Chemical Engineering
- Bachelor of Civil Engineering
- Bachelor of Electrical Engineering
- Bachelor of Fine Arts
- Bachelor of General Studies
- Bachelor of Mechanical Engineering
- Bachelor of Music
- Bachelor of Science
- Bachelor of Science in Business Administration
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Education and Allied Professions
- Bachelor of Science in Engineering Technology
- Master of Arts
- Master of Business Administration
- Master of Computer Science
- Master of Financial Mathematics
- Master of Laws
- Master of Mathematics Education
- Master of Public Administration
- Master of Science
- Master of Science in Aerospace Engineering
- Master of Science in Applied Mathematics
- Master of Science in Chemical Engineering
- Master of Science in Civil Engineering
- Master of Science in Education and Allied Professions
- Master of Science in Electrical Engineering
- Master of Science in Electro-Optics
- Master of Science in Engineering
- 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
- Master of Science in Renewable and Clean Energy
- Master in the Study of Law
- Educational Specialist
- Juris Doctor
- Doctor of Engineering
- Doctor of Philosophy in Biology
- Doctor of Philosophy in Educational Leadership
- Doctor of Philosophy in Electro-Optics
- Doctor of Philosophy in Engineering
- Doctor of Philosophy in Theology
- Doctor of Physical Therapy


## College of Arts and Sciences

The College of Arts and Sciences offers five undergraduate degrees:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Music
- Bachelor of Fine Arts
- Bachelor of General Studies.

Academic majors offered by the College include:

- American Studies
- Applied Mathematical Economics
- Art Education
- Art History
- Biochemistry
- Biology
- Chemistry
- Communication Management
- Communication Studies
- Computer Information Systems
- Computer Science
- Criminal Justice Studies
- Economics
- Electronic Media
- English
- Environmental Biology
- Environmental Geology
- Fine Arts
- French
- General Studies
- Geology
- German
- Graphic Design
- History
- Human Rights
- International Studies
- Journalism
- Languages
- Mathematics
- Medicinal-Pharmaceutical Chemistry
- Music
- Music Composition
- Music Education
- Music Performance
- Music Therapy
- Philosophy
- Photography
- Physical Science
- Physics
- Physics-Computer Science
- Political Science
- Pre-Dentistry
- Pre-Medicine
- Psychology
- Public Relations
- Religious Studies
- Sociology
- Spanish
- Theatre
- Visual Arts
- Women's and Gender Studies

The College of Arts and Sciences offers Masters degree programs in:

- Biology
- Chemistry
- Communication
- Computer Science
- English
- Applied Mathematics
- Pastoral Ministry
- Psychology
- Public Administration
- Theological Studies

The College works in collaboration with the School of Education and Allied Professions to offer the Master of Arts in English with a teaching track, the Master of Science in Education and Allied Professions with music education concentration, and the Master of Science in Education and Allied Professions with art education concentration.

The College of Arts and Sciences offers graduate programs leading to doctoral degrees in biology and in theology and participates through the Department of Physics with the School of Engineering in an interdisciplinary program leading to the doctoral degree in electro-optics.

## School of Business Administration

The School of Business Administration offers a Bachelor of Science degree with majors in:

- Accounting
- Business Economics
- Entrepreneurship
- Finance
- International Business
- Leadership
- Management Information Systems
- Marketing
- Operations Management

On the graduate level, the School awards the Master of Business Administration degree.

## School of Education and Allied Professions

The School of Education and Allied Professions (SOEAP) prepares professionals for the early, middle, and secondary levels, and for specialized fields such as:

## - Art

- Music
- Foreign Language
- Intervention Specialist
- Physical Education
- Dietetics/Nutrition
- Exercise Physiology
- Exercise Science
- Pre-Physical Therapy
- Sport Management

It conducts professional development and post-graduate programs and offers graduate programs leading to the degrees of:

- Master of Science in Education and Allied Professions (along with Educational Specialist)
- Doctor of Philosophy in Educational Leadership
- Doctor of Physical Therapy

These programs are designed to prepare school administrators, school counselors, school psychologists, and teachers for both public and private schools nationwide, as well as preparing physical therapists for practice in a clinical setting.

## School of Engineering

The School of Engineering includes the departments of:

- Chemical and Materials Engineering
- Civil and Environmental Engineering and Engineering Mechanics
- Electrical and Computer Engineering
- Mechanical and Aerospace Engineering
- Engineering Technology

The School offers four-year curricula leading to the degrees of:

- Bachelor of Chemical Engineering
- Bachelor of Civil Engineering
- Bachelor of Electrical Engineering
- Bachelor of Mechanical Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Engineering Technology with specialties in:
- Electronic and Computer Engineering Technology
- Industrial Engineering Technology
- Manufacturing Engineering Technology
- Mechanical Engineering Technology

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
- Master of Science in Renewable and Clean Energy
- Doctor of Engineering
- Doctor of Philosophy in Engineering
- Doctor of Philosophy in Electro-Optics


## 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 and Allied Professions (Educational Administration).

## The Graduate School

Programs leading to advanced degrees are offered through the Schools of Business, Education, Engineering and Law, and through the College of Arts and Sciences.
Doctoral programs are offered in:

- Biology
- Theology
- Aerospace Engineering
- Electrical Engineering
- Materials Engineering
- Mechanical Engineering
- Electro-Optics
- Educational Leadership

Both Ph.D. and D.E. (i.e., Doctor of Engineering) degrees are offered through the School of Engineering. A Doctor of Physical Therapy program is offered through the School of Education and Allied Professions.

The College of Arts and Sciences offers master's programs in:

- Biology
- Chemistry
- Communication
- Computer Science
- English
- Applied Mathematics
- Financial Mathematics
- Mathematics Education (in collaboration with the Department of Teacher Education)
- Pastoral Ministry
- Psychology
- Public Administration
- Theological Studies

A concentration in Music Education is offered through and in collaboration with the School of Education and Allied Professions. Individual interdisciplinary studies and several post-baccalaureate certificate programs are also available.

The School of Business Administration offers a Master's of Business Administration with concentrations in:

- Accounting
- Business Intelligence
- Entrepreneurship
- Finance
- International Business
- Management Information Systems
- Operations Management
- Marketing
- Technology-Enhanced Business/e-Commerce

A combined program offering a B.S. in Accounting and an MBA is available. The J.D./MBA joint degree program is also offered to students meeting the admission requirements of both the Law School and the School of Business Administration. In addition, the Post-MBA Certificate Program offers the opportunity for MBA graduates to earn a graduatelevel professional certificate in an approved concentration field. A postbaccalaureate certificate in Cyber-Security Management is also available.

The School of Education and Allied Professions offers a Master of Science in Education (MSE) degree, with programs in:

- Teacher Education
- Educational Leadership
- Counselor Education
- Exercise Science

The School also offers an Educational Specialist degree in Educational Leadership and School Psychology, as well as a graduate licensure program.

The School of Engineering offers the Master of Science degree in:

- Aerospace Engineering
- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Electro-Optics
- Engineering
- Engineering Management
- Engineering Mechanics
- Materials Engineering
- Management Science

The School of Law offers the Master of Laws (LL.M.), the Master in the Study of Law (M.S.L.) and the Juris Doctor (J.D.) degrees.

## Academic Calendar Year

The University of Dayton operates under an early semester, split thirdterm calendar. The academic year begins with the fifteen-week fall term, which ends before Christmas. The spring term, also fifteen weeks, begins in January and ends early in May. The third, or 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 spring 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 degree requirements. The University issues diplomas at the end of each term and holds ceremonies in May and December. 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 spring term, when the employment market is not crowded with other college students.

## Academic Calendar 2012-2013

## Subject to change

FALL 2012

| Date | Description |
| :--- | :--- |
| Mon, Aug 6 | Degrees conferred-- no ceremony |
| TBD | New Faculty Orientation |
| Sat-Tue, Aug | New Student Orientation |
| 18-21 |  |
| Tue, Aug 21 | New Student Convocation |
| Tue, Aug 21 | Last day to complete registration |
| Wed, Aug 22 | Classes begin at 8:00 a.m. |
| Tue, Aug 28 | Last day for late registration, change of grading <br> options and schedules |
| Mon, Sep 3 | Labor Day-- no classes |
| Tue, Sep 11 | Last day to change Second Session and full Summer <br> Term grades |
| Wed, Sep 12 | Last day to drop classes without record |
| Wed, Oct 3 Mid-Term Break begins after last class |  |
| Mon, Oct 8 | Classes resume at 8:00 a.m. |
| Mon, Oct 15 | Last day for Graduate and Doctoral students to apply <br> for December 2012 graduation |
| Wed, Oct 17 | First-Year students' midterm progress grades due by <br> 4:00 p.m. |


| $\begin{aligned} & \text { Fri-Sun, Oct } \\ & \text { 19-21 } \end{aligned}$ | Family Weekend |
| :---: | :---: |
| Thu, Nov 1 | Last day for Undergraduate students to apply for May 2013 graduation |
| Mon, Nov 5 | Last day to drop classes with a record of W |
| Tue, Nov 20 | Thanksgiving recess begins after last class |
| Sat, Nov 24 | Saturday classes meet |
| Mon, Nov 26 | Classes resume at 8:00 a.m. |
| Thu, Dec 6 | Last day of classes |
| Fri, Dec 7 | Feast of the Immaculate Conception/ Christmas on Campus-- no classes |
| Sat, Dec 8 | Study Day |
| Sun, Dec 9 | Study Day |
| Mon-Fri, Dec $10-14$ | Exams-- Fall Term ends after final examinations |
| Sat, Dec 15 | Diploma Exercises at 9:45 a.m. |
| Tue, Dec 18 | Grades due by 9 a.m. Deficiency slips due in Deans' offices |
| Thu, Dec 20 | Grades posted |
| Tue, Jan 22 | Last day to change Fall Term grades |
| CHRISTMAS BREAK |  |
| Date | Description |
| Sun, Dec 16 | Christmas Break begins |
| Sun, Jan 13 | Christmas Break ends |
| SPRING 2013 |  |
| Date | Description |
| Fri, Jan 11 | Spring New Student Orientation |
| Fri, Jan 11 | Last day to complete registration |
| Mon, Jan 14 | Classes begin at 8:00 a.m. |
| Fri, Jan 18 | Last day for late registration, change of grading options and schedules |
| Mon, Jan 21 | Martin Luther King, Jr. Day-- no classes |
| Tue, Jan 22 | Last day to change Fall Term grades |
| Fri, Feb 1 | Last day for Graduate and Doctoral students to apply to apply for May 2013 graduation |
| Mon, Feb 4 | Last day to drop classes without record |
| Wed, Feb 27 | Mid-Term Break begins after last class |
| Mon, Mar 4 | Classes resume at 8:00 a.m. |
| Wed, Mar 13 | First-Year students' midterm progress grades due by 4:00 p.m. |
| Fri, Mar 15 | Last day for Undergraduate students to apply for August 2013 graduation |
| Wed, Mar 27 | East recess begins after last class |
| Mon, Apr 1 | Easter Monday-- no day classes -- classes resume at 4:30 p.m. |
| Mon, Apr 1 | Last day for Undergraduate students to apply for December 2013 graduation |
| Wed, Apr 3 | Last day to drop classes with record of W |
| Wed, Apr 17 | Bro. Joseph W. Stander Symposium- Alternate Day of Learning |
| Fri, April 26 | Last day of classes |
| Sat, Apr 27 | Study Day |
| Sun, Apr 28 | Study Day |


| Mon-Fri, April <br> 29-May 3 | Exams-- Spring Term ends after final examinations |
| :--- | :--- |
| Sat, May 4 | Doctoral/Graduate Commencement Exercises at TBD |
| Sun, May 5 | Undergraduate Commencement Exercises at 9:45 <br> a.m. |
| Tue, May 7 | Grades due by 9:00 a.m. Deficiency slips due in <br> Deans' offices |
| Thu, May 9 | Grades posted |
| Mon, Jun 10 | Last day to change Spring Term grades |

## SUMMER 2013-- FIRST SESSION

| Date | Description |
| :--- | :--- |
| Fri, May 10 | Last day to complete registration |
| Sat, May 13 | Classes begin at 8:00 a.m. |
| Tue, May 14 | Last day for Summer Term- First Session registration, <br> change of grading options and schedules |
| Thu, May 16 | Last day for late full Summer Term registration, <br> change of grading options and schedules |
| Wed, May 22 | Last day to drop without record form First Session <br> classes |
| Mon, May 27 | Memorial Day -- no classes |
| Mon, Jun 10 | Last day to drop with record of W from First Session <br> classes |
| Mon, Jun 10 | Last day to change Spring Term grades |
| Fri-Sat, Jun | Exams-- full Summer Term classes do not meet First <br> Session ends after final examinations |
| Tue, Jun 25 | Grades due by 9:00 a.m. Deficiency slips due in <br> Deans' offices |
| Thu, Jun 27 | Grades posted <br> Last day for Graduate and Doctoral students to apply |
| Mon, Jul 1 | for August 2013 graduation |
| Wed, Jul 3 3 | Last day to drop without record from full Summer <br> Term classes |
| Tue, Jul 30 | Last day to change First Session grades |

## SUMMER 2013-- SECOND SESSION

| Date | Description |
| :--- | :--- |
| Fri, Jun 21 | Last day to complete registration |
| Sat, Jun 22 | Saturday classes begin |
| Mon, Jun 24 | Second Session classes begin |
| Tue, Jun 25 | Last day for late Summer Term- Second Session <br> registration, change of grading options and schedules |
| Mon, Jul 1 | Last day for Graduate and Doctoral students to apply <br> for August 2013 graduation |
| Wed, Jul 3 | Last day to drop without record from Second Session <br> and full Summer Term classes |
| Thu, Jul 4 | Independence Day-- no classes <br> Mon, Jul 15Last day to drop with record of W from Second <br> Session and full Summer Term classes |
| Tue, Jul 30 | Last day to change First Session grades |
| Fri-Sat, Aug 2-3 | Exams-- Second Session and full Summer Term end <br> after final examinations |
| Mon, Aug 5 | Degrees conferred-- no ceremony |
| Tue, Aug 6 | Grades due by 9:00 a.m. Deficiency slips due in <br> Dean's offices |
| Thu, Aug 8 | Grades posted |

Tue, Sep $10 \quad$ Last day to change Second Session and full Summer
Term grades

## Academic Calendar 2013-2014

## FALL 2013

| Date | Description |
| :--- | :--- |
| Mon, Aug 5 | Degrees conferred--no ceremony |
| TBD | New Faculty Orientation |
| Sat-Tue, Aug | New Student Orientation |
| 17-20 |  |
| TBD | Upperclass students move into UD Housing |
| TBD | New Student Convocation |
| Tue, Aug 20 | Last day to complete registration |
| Wed, Aug 21 | Classes begin at 8:00 a.m. |
| Tue, Aug 27 | Last day for late registration, change of grading <br> options and schedules |
| Mon, Sep 2 | Labor Day-- no classes |
| Tue, Sep 10 | Last day to change Second Session and full Summer |
| Werm grades |  |

## CHRISTMAS BREAK

| Date | Description |
| :--- | :--- |
| Sun, Dec 15 | Christmas Break begins |
| Sun, Jan 12 | Christmas Break ends |
| SPRING 2014 |  |
| Date | Description |
| Fri, Jan 10 | Last day to complete registration |


| Mon, Jan 13 | Classes begin at 8:00 a.m. |
| :--- | :--- |
| Fri, Jan 17 | Last day for late registration, change of grading <br> options and schedules |
| Mon, Jan 20 | Martin Luther King, Jr. Day -- no classes |
| Tue, Jan 21 | Last day to change Fall Term grades |
| Sat, Feb 1 | Last day for Graduate and Doctoral students to apply <br> for May 2014 graduation |
| Mon, Feb 3 | Last day to drop classes without record |
| Wed, Mar 5 | Mid-Term Break begins after last class |
| Mon, Mar 10 | Classes resume at 8:00 a.m. |
| Wed, Mar 12 | First-Year students' midterm progress grades due by <br> 4:00 a.m. |
| Sat, Mar 15 | Last day for Undergraduate students to apply for |
| Tue, Apr 1 | August 2014 graduation |
| Last day for Undergraduate students to apply for |  |


| Thu, Jun 26 | Grades posted |
| :--- | :--- |
| Tue, Jul1 | Last day for Graduate and Doctoral students to apply <br> for August 2014 graduation |
| Wed, Jul 2 | Last day to drop without record from full Summer <br> Term classes |
| Tue, Jul 29 | Last day to change First Session grades |

SUMMER 2014-- SECOND SESSION

| Date | Description |
| :---: | :---: |
| Fri, Jun 20 | Last day to complete registration |
| Sat, Jun 21 | Saturday classes begin |
| Mon, Jun 23 | Second Session classes begin |
| Tue, Jun 24 | Last day for late Summer Term-- Second Session registration, change of grading options and schedules |
| Tue, Jul 1 | Last day for Graduate and Doctoral students to apply for August 2014 graduation |
| Wed, Jul 2 | Last day to drop without record from Second Session and full Summer Term classes |
| Fri, Jul 4 | Independence Day-- no classes |
| Mon, Jul 14 | Last day to drop with record of W from Second Session and full Summer Term classes |
| Tue, Jul 29 | Last day to change First Session grades |
| Fri-Sat, Aug 1-2 | Exams--Second Session and full Summer Term end after final examinations |
| Mon, Aug 4 | Degrees conferred-- no ceremony |
| Tue, Aug 5 | Grades due by 9:00 a.m. Deficiency slips due in Deans' offices |
| Thu, Aug 7 | Grades posted |
| Tue, Sep 9 | Last day to change Second Session and full Summer Term grades |

## Libraries

The University Libraries are comprised of:

- Roesch Library
- The Marian Library
- The University Archives and Special Collections
- The International Marian Research Institute

Roesch Library houses books, journals, videos, DVDs, CDs, government documents, and microforms for both graduate and undergraduate students. Roesch Library is open 114 hours a week throughout much of the academic year and 24 hours per day during finals. Reference assistance is provided in a variety of forms including in person, email, IM, telephone, and private consultations. Roesch Library subscribes to over 280 databases on a variety of subjects and provides access to more than 69,000 journals in print and electronic formats. Its book (print and electronic) and microform collections include over 1.4 million volumes.

The Libraries also provide comfortable study areas, photocopiers, and individual and group study rooms. Roesch Library has 20 computer workstations located on the first floor and 37 computer workstations located on the second floor. All workstations provide access to the campus network, OhioLINK resources, and the Internet. These computers run Microsoft Office applications, SPSS, and audio and video editing software. Group Project Space, also located on the second floor, has ten workstations equipped with double monitors that allow for group collaboration. All floors have data ports and wireless network access
that allow students to access campus and information networks through notebook computers.

The Libraries are members of OhioLINK, a cooperative venture of university and college libraries and the Ohio Board of Regents. OhioLINK partners have created a common information network providing rapid access to and delivery of over 49 million items available at college and university libraries across the state. All of the libraries affiliated with OhioLINK provide on-site borrowing privileges to students and faculty associated with the University. Access to the Libraries' Web page, databases, and online catalog is available at http://www.udayton.edu/ libraries/.

The Marian Library (seventh floor of the Roesch Library) is recognized as the world's largest collection of published materials on the Virgin Mary. Its comprehensive collection embraces the works treating the Virgin Mary as found in Scripture, tradition, doctrine, history, art, popular culture, spirituality, and devotion. The multi-language collection includes over 95,000 books ( 6,000 printed before 1800), 200 periodicals, a clipping file of over 60,000 items, a Marian stamp collection, a Christmas creche collection, statues, medals, postcards, and works of art.
Publications include:

- Marian Studies (papers given at the annual meeting of the Mariological Society of America)
- Marian Library Studies (original research on Marian topics)
- The twice-yearly Marian Library Newsletter

United with the Marian Library is the International Marian Research Institute (IMRI), affiliated with the Pontifical Theological Faculty Marianum in Rome. IMRI offers courses in Marian studies as well as pontifical academic degrees (Licentiate and doctorate) in theology with specialization in Mariology. The Marian Library's collections can be accessed via the University Libraries' online catalog. Hours, an explanatory video, and information on current art exhibits can be found on the Mary Page at http://campus.udayton.edu/mary/.

The University of Dayton School of Law Library is located in Joseph E. Keller Hall. Its collection contains over 190,000 volumes and over 676,000 physical units of microforms. The open-stack arrangement of the Law Library permits easy access to all materials. For additional information see http://community.udayton.edu/law/library/.

The Brother Louis J. Faerber, S.M., Curriculum Materials Center (CMC) houses the SOEAP's specialized education collections and is located in Chaminade Hall. Its collection includes:

- Professional education books and journals
- Children and young adult literature
- Elementary and secondary textbooks
- Standardized assessments
- Teaching aids (games \& manipulatives)
- DVD's
- CD's
- Videocassettes
- Audiocassettes
- LP records
- Charts
- Material kits
- Other resources

The CMC also houses research projects, theses, and dissertations completed for the SOEAP's respective graduate programs. A copier, four
networked computer workstations, the Ellison Press, Accu-Cut Machine, and an assortment of letter and shape dies are available for student use. Additional information is available at www.udayton.edu/education/cmc/ index.php.

## Off-Campus Academic Centers

The University of Dayton maintains an off-campus center for graduate study in Education \& Allied Professions (Columbus). All programs and courses are closely supervised by the dean of Education \& Allied Professions and the dean of the Graduate School. Most of these courses are taught by the faculty member teaching the same course on the main campus.

## 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.
As part of a comprehensive strategy for adult education through Graduate, Professional and Continuing Education, Special Programs and 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 Student and Scholar Services, located in the Center for International Programs, serves students, faculty, staff, and visiting scholars from other countries who are studying or working at the University.

To foster interdisciplinary efforts, the Office of the Provost can administer courses designated UDI (University of Dayton Interdisciplinary) to accommodate interschool offerings and experimental programs.

## Southwestern Ohio Council for Higher Education (SOCHE)

Students at the University of Dayton may register for courses for credit at Southwestern Ohio Council for Higher Education institutions (see below for a complete list) at the University of Dayton's rate per credit hour. Students will pay any applicable lab or related fees at the host institution. This policy applies only if the course is not available at the University of Dayton, space in the course is available, and pertains only to regular sessions of the academic year. The student also is required to have advisor's permission, must satisfy all course prerequisites, and must meet the host institution's admissions requirements. For more information go to www.soche.org. (http://www.soche.org)

The consortium of 22 colleges and universities was established to promote inter-institutional cooperation and community service. SOCHE holds regular conferences for faculty and staff, serves as a clearinghouse for the exchange of information, and promotes projects of educational research and experimentation. Many cooperation programs exist in:

- Teaching
- Research
- Publishing
- College finance and administration
- Other areas

Consortium member schools include:

- Air Force Institute of Technology
- Antioch College
- Antioch University Midwest
- Cedarville University
- Central Michigan University
- Central State University
- Clark State Community College
- Edison State Community College
- Kettering College of Medical Arts
- The Kettering Foundation
- Miami-Jacobs College
- Miami University-Middletown
- Miami University Regionals
- Sinclair Community College
- Southern State Community College
- United Theological Seminary
- Union Institute \& University
- University of Dayton
- Urbana University
- Wilberforce University
- Wilmington College
- Wittenberg University
- Wright State University


## Student Life and Services

At the University of Dayton, you're not alone. And not just because you'll make friends at every turn, but because our faculty, staff and community are eager to help you along your path. To guide you, advise you and even help you land a job after graduation.

As a Catholic, Marianist institution, our educational philosophy addresses the needs of the whole person: mind, body and spirit. And you'll find a plethora of offices are here to support you every step of the way.

## Affirmative Action Office

As an integral part of the Office of Legal Affairs, the Office of Compliance and Affirmative Action, in St. Mary's Hall, Room 400, provides services to all employees. The Affirmative Action Officer/Staff Attorney is the University's compliance officer for Affirmative Action/Equal Employment Opportunity (AA/EEO), Title VII of the Civil Rights Act of 1964, 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.

## Campus Ministry

Faith formation and reflective religious dialogue play important roles in the education and development of the whole person at the University of Dayton. As a primary agent in faith formation at UD, Campus Ministry, inspired by the University's Marianist tradition, forms persons and communities in a lived faith, expressed in worship, in challenging and compassionate relationships, and in commitment to justice and service.

With thirty staff persons and a wide variety of programs, UD has one of the largest and most active campus ministry programs anywhere.

Informed by the Roman Catholic Tradition, the vast majority of our programs appeal to students from different Christian backgrounds and those of other faiths. A full-time protestant campus minister serves as a part of the campus ministry team. Campus Ministry also connects students from other faith traditions to their respective faith communities off campus. A number of independent, religiously based student organizations exist on campus. Together, these provide a range of options and opportunities for students to be a part of a faith community during their time at UD.

Our primary activities for students are outlined below.

## Residence Life Ministry

Each residential area has campus ministers who actively engage students in faith based activities. Student leaders guide participation in activities such as faith sharing groups, bible studies, retreats, Mass, service and social opportunities, and other prayer experiences. In these and other ways, campus ministry is able to accompany, encourage and support students in areas of leadership, personal growth, and spiritual development.

## Center for Social Concern

Campus Ministry's Center for Social Concern is committed to faithbased social justice education, including direct service to the poor and marginalized, work on behalf of social justice and changing unjust structures in society that oppress and marginalize human beings. The Center for Social Concern provide regular BreakOut Trips, Summer Immersion Trips, and the Summer Appalachia Program, offer opportunities for service and justice education in domestic and international settings. Guest speakers and a number of other activities also contribute to these goals. At the heart of it all is a wide array of opportunities to reflect on the service and justice work in the context of faith.

## Retreats and Faith Communities

Over twenty retreats are offered each year for UD students. The retreats vary in size, style, theme, and focus to provide opportunities for faith development in many ways. There are quiet relaxing guided retreats, wilderness retreats, retreats specifically for first-year students and graduate students, large community focused retreats, interdenominational retreats, and more that foster faith development through activities, discussion, and prayer. Most retreats are led by student teams who prepare through weekly meetings.

Students also join small Christian communities called PORCH. These student led groups meet regularly and focus in unique ways including faith sharing, scripture study, and theological reflection.

Campus Ministry's Program for Christian Leadership offers Callings, a pre-orientation experience for incoming first year students focused on fostering faith, vocation, and leadership for new UD students as well as PORCH communities, retreat and leadership experiences.

## Liturgies and Prayer

Students, faculty, and staff are active in the liturgical life of the University as lectors, Eucharistic ministers, music ministers, Mass coordinators, and hospitality ministers at both daily and Sunday celebrations of the Eucharist. The sacrament of Reconciliation and Eucharistic adoration are scheduled regularly, and during the seasons of Advent and Lent, sung weekly Vespers are offered along with communal Reconciliation services. An interdenominational Christian worship service is held every Sunday
during the academic year. Other opportunities for worship are available in the local community.

## Campus Recreation

The Department of Campus Recreation is located on the " M " level of the RecPlex. The RecPlex, which opened in January 2006, houses a state of the art recreation facility. Full time undergraduate students, as part of their basic university fee, are eligible to use the RecPlex with their UD student ID. The facility may be used by graduate students who purchase a RecPlex Membership. Highlights of the building include:

- Main Gym with four full sized wood court basketball courts and three racquetball courts, one of which can be converted for squash.
- MAC Gym with two rubberized courts surrounded by a professional grade dasher board system adequately sized to play a variety of sports including tennis, indoor soccer, basketball, volleyball, and floor hockey.
- Aquatic Center with a 25 yard eight lane lap pool, four foot deep vortex leisure pool, diving well, and an eight-person spa.
- Fitness Studios A, B, and C which are used for a variety of instructional and group fitness classes.
- 10,000 sq. ft. Fitness Floor is home to 80 cardio machines and 70 strength training stations.
- Wellness Assessment Lab from which services such as athletic training, massage, and personal training consultation are offered.
- Four lane $1 / 8$ of a mile rubberized jogging track.

Campus Recreation is excited to feature a new 5+ acre outdoor facility due to the installation of an infill turf surface. This new resource matches the quality of the RecPlex and provides year round access and a consistent surface for sports programming.
Campus Recreation offers many programs and facilities for students, including:

- Intramural Sports
- Sport Clubs
- Aquatics
- Fitness Programs
- Climbing Wall
- Strength and Cardio Equipment

Campus Recreation provides a variety of intramural activities in which anyone can find exercise surrounded by a spirit of fun and competition which is uniquely enhanced by our Marianist values. Activities include:

- Softball
- Flag Football
- Indoor and Outdoor Soccer
- Volleyball
- Basketball
- Dodge-ball
- Bowling
- Racquetball
- Golf meet
- Wallyball
- Floor Hockey

All students are invited to participate; ability is not important, just the desire to play. Please contact us at udintramurals@udayton.edu.

Another popular feature of the Department of Campus Recreation is the Sports Club Program. Currently, there are 36 recognized sports clubs on campus. The Sports Club Program offers students the opportunity to participate in a highly organized activity, 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 Assistant Director of Sport Clubs.

Schedules concerning open recreation hours and scheduled events may be secured from the Campus Recreation Office. For more information please visit http://campus.udayton.edu/~recsport/ or call 229-2731.

## Career Services

The University of Dayton Career Services is a team of dedicated, caring professionals committed to providing excellent career related-resources, programs, services, and opportunities that build confidence and job search skills. We serve as a connecting point between students, faculty, alumni, and employers in an increasingly diverse and globally influenced job market. We are a leader in career planning and preparation, balancing the latest technology with personal guidance in the Marianist tradition.

Career advisors are available to discuss:

- Major selection
- Career direction
- Job search strategies
- Resume critique
- Networking
- Graduate school strategies
- Interview tips

Practice interviews with a career advisor can be digitally recorded and evaluated upon request to prepare the student for actual interviews by company representatives. All students, including first year students, are encouraged to utilize the services available. Appointments may be made by calling (937) 229-2045.

The Hire a Flyer Network is available from the Career Services web site for students to access job listings, post resumes, and register for events such as workshops, career fairs, and on-campus interviews with employers. Students may also access the Alumni Career Network through Hire a Flyer.

Career Fairs are scheduled Fall and Spring semesters for all majors. These events provide an opportunity for employers, students, and alumni to meet and discuss job opportunities. Approximately 150 companies attend looking for internship, co-op, and full-time employees.

The on-campus recruiting program is open to all students and alumni. On-campus recruiting is held October-April each year.

In addition, Career Services offers other venues for students to interact with employers as well as mini-courses, workshops, and presentations on a wide variety of job search and career related topics.

Additional information is available online at http://careers.udayton.edu.

## Center for International Programs

The Center for International Programs provides leadership, coordination, strategic planning, and administrative support for the internationalization of campus. In cooperation with other University departments and Dayton area organizations, the CIP operates programs and provides services
which enhance intercultural education at the University of Dayton. The CIP is part of Academic Affairs and Learning Initiatives, under the Office of the Provost. Our areas include:

## Education Abroad

University study abroad programs including the CIP's Summer Study Abroad Programs are managed through the Office of Education Abroad. Additional resources are available through partner institutions and affiliate programs for semester and year-long study. The CIP works closely with other areas on campus, such as the Center for Social Concern and academic departments, to assist all students going abroad. Faculty and staff may also find support in developing and promoting educational trips abroad.

## Exchanges and Partnerships

The University's international exchanges and partnerships are managed through the CIP. UD's partnerships with international universities and institutions benefit our students, faculty and staff through education abroad programs, semester and year-long exchange programs, research collaborations, and more.

## International Student and Scholar Services

International Student and Scholar Services provides students and exchange visitors with immigration advising, workshops, orientation, academic and non-academic advising, as well as social and extracurricular activities. Services include support of international faculty and research scholars and their dependents. The ISSS staff works collaboratively with other departments and organizations to advance the University's commitment to building a global community.

## Intensive English Program

The University's English as a Second Language program develops students' English skills in preparation for an undergraduate or graduate program or the work place. Course offerings include grammar, reading and writing, listening and speaking, TOEFL preparation, and pronunciation.

## International Learning and Living Community (ILLC)

Upperclass undergraduate American and international students may select to live in an upperclass international community, located in an on-campus apartment building. Residents of the ILLC live together in four-person apartments and participate in activities that encourage intercultural dialogue and relationship building between students from a variety of cultural backgrounds.

## World Exchange

The World Exchange (WEx) is a lounge and conference/work area located in Alumni Hall which fosters international interaction and partnership between internationally oriented student clubs, faculty, and staff. All members of the campus community are encouraged to utilize this space for meetings and other international exchanges.

Additionally, the Center for International Programs communicates with students, faculty, staff, and the surrounding community to promote international activities on campus and in the area.

## Counseling Center

The main purpose of the Counseling Center is to assist students in self-development, including personal adjustment, career planning, 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 student's concern is too minor to explore. This is usually accomplished through one-to-one and group counseling, although there
are opportunities for workshops on certain topics, consultation, 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' problems become life threatening. The University and the student may enter into a contract to establish conditions regarding required treatment/assessment, if there is imminent danger. 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 generally should be notified, and it will initiate such notification if the student has not done so within an appropriate time, refuses to do so, or is unable to do so. Other exceptions to confidentiality include a) receiving a court order, and b) when evidence suggests abuse or endangerment to a person under the age of 18 or over 60.

A one-time counseling fee charged to all matriculating undergraduate students, Law School students, and Graduate Assistants covers the cost of services by the Counseling Center while they are enrolled at the University. Non-Graduate Assistants, graduate students, and nonmatriculated undergraduate students pay charges on a fee-forservice basis. The International Association of Counseling Services, Inc, accredits the Center.

## Dining Services

The University of Dayton Dining Services operates two full-service a la carte student dining facilities located in Kennedy Union, and Marycrest Complex, and two restaurants. Passports and The Grainary, located in the V.W. Kettering Residence Hall. The Emporium, a mini grocery store with a full service deli, is located in the Marianist Residence Hall, and Stuart's Landing, a convenience store, is located in Stuart Hall Complex. Dining Services also operates The Galley, a pretzel/ ice cream/ gourmet coffee shop located in Kennedy Union, and The Chill, a juice bar with healthy snack options, located in The RecPlex. All students living in Marycrest, Stuart, Founders, Marianist, and Virginia Kettering Residence Halls are required to purchase a meal plan. Meal plan options are as follows:

- Limited 15 and Limited 21 Plans- These structured meal plans have spending allowance associated with them during specific meal periods. If you don't spend the entire allowance for that meal, you lost it. These plans start with lunch the day before the first day of classes.

Note: Only one block of funds may be used during each meal period. For example, two blocks may not be used during the lunch meal period on the same day.

- The Silver, Gold and Platinum Plans- These are debit style meal plans and provide complete flexibility, with no specific meal periods and now spending allowances.

Note: There are no refunds on debit plan balances, however, $50 \%$ of balances remaining at the end of each semester (after any bonus dollars are deducted) will roll over to the next semester up to a maximum of $\$ 300$.

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

- Limited 15 Plan (15 blocks per week) \$2,035.00
- Limited 21 Plan (3 blocks per day, 7 days) \$2,180.00
- The Silver Plan (debit account) $\$ 1,950.00$
- The Gold Plan (debit account) \$2,210.00
- The Platinum Plan (debit account) $\$ 2,360.00$

When a student does not choose a meal plan the default plan is the Silver Plan.

Non-resident students may purchase a Neighborhood meal plan (debit account).

For more information on meal plans, please visit http:// dining.udayton.edu.

## FlyerCard

The FlyerCard is the official photo identification card at the University of Dayton. Your FlyerCard must be presented for purchases using your FlyerCard account(s), admission to the RecPlex, library services, and building access.

Your FlyerCard can be used as a form of payment for food, textbooks, supplies, laundry, printing, and other essential services. It is safe, fast, and convenient to use. You can view your transactions and the balance of your accounts by choosing the "My Account" link at https:// flyerexpress.udayton.edu/.

To get your FlyerCard, stop by the Campus Card Services office located in room 102 of the Powerhouse. The first FlyerCard received is issued at no charge. All students must be registered for classes before receiving their card. Visit the FlyerCard website http://FlyerCard.udayton.edu/ for a detailed view of the FlyerCard program.

## Flyer Express

Flyer Express is a declining-balance prepaid account accessed with your FlyerCard. It is the convenient way to pay for products and services on and off campus. Your Flyer Express account eliminates the need to carry cash and saves you the hassle of searching for correct change. Flyer Express has you covered with whatever you need, 24 hours a day, 365 days a year. It is safe, fast, and convenient to use. The money in your Flyer Express account is carried over from one semester to the next and from year to year.

The Card Services office offers you multiple options to deposit funds into your account.

- Online at https://flyerexpress.udayton.edu/AddFlyer.aspx
- Phone: (937) 229-2456 or 1-800-259-8864 (option 4)
- In person at the Campus Card Services office in the Powerhouse or the Bursar's office in St. Mary's Hall
- At kiosks located in all Dining Services locations and the Roesch Library.

Flyer Express is accepted at:

- All Dining Service locations
- Art Street Cafe
- UD Bookstore
- Residence Hall laundry
- Campus Copy Center
- Selected vending areas
- The Hangar
- The Galley
- Stuart's Landing
- Campus Computer Store
- Roesch Library
- Post Office
- The Chill
- KU Box Office
- The Blend
- The Blend Express
- Selected off campus businesses.

Flyer Express is used to pay for printing in the Library and many computer labs. Visit the FlyerCard website http://FlyerCard.udayton.edu/ for a current listing of off campus vendors that accept Flyer Express.

## Health Center

Medical care is available at the Health Center to all full-time and parttime undergraduate, graduate, and law students. During the academic year, the Health Center is open from 8:30 a.m. to 5:30 p.m. on weekdays, except University holidays. A physician is available for consultation every weekday morning and afternoon throughout the year, except University holidays. Summer hours are 8:30 a.m. to 4:30 p.m. with limited physician hours. Students should call the Health Center to schedule an appointment at 93131 or (937) 229-3131. In case of emergency, call Public Safety, (937) 229-2121.

Pre-admission physical examinations are not required, but students with chronic health problems are advised to have their physicians send records or recommendations to the medical director. Every student born after 1955 is required to show evidence of immunity to measles, mumps, and rubella. All students are required to fill out a tuberculosis screening. Students living in on-campus housing also have specific requirements for meningitis and hepatitis B vaccines, specified by Ohio law. A link to the Health Requirements form is located on the Health Center website at http://www.udayton.edu/studev/healthcenter/index.php\#5.
Undergraduate and law students pay a Basic University Fee, which covers the cost of services at the Health Center. Graduate and IEP students, who do not pay this fee, are charged for services received at the Health Center. The charge for a physician visit ranges from \$45 to $\$ 75$, depending on the length of the visit and the type of services provided. Charges are made for all students for medicines dispensed, allergy injections, laboratory tests, and x-ray examinations.

All charges incurred at the Student Health Center are reported to the Bursar to be entered on the student's account with the University. Inquiries regarding bills or University-sponsored insurance should be made at the Health Center between 9:00 a.m. and 3:00 p.m. weekdays. Itemized statements can be provided upon patient request. These are not automatic and the Health Center does not bill outside insurance companies directly, however students should bring a copy of their health insurance/pharmacy cards to each visit.
Full-time graduate and law students (6 hours or more) and undergraduates students are eligible for University-sponsored health and accident insurance. For information about this program, visit the Health Center, or call (937) 229-3131.

## International Student and Scholar Services Office

The International Student and Scholar Services Office provides students and exchange visitors with immigration advising, workshops, orientation, academic and non-academic advising, as well as social and extracurricular activities. ISSS extends its services and support to international faculty and research scholars and their dependents. The ISSS works collaboratively with other departments and organizations to advance the University's commitment to building a global community.
ISSS also presents Bridges, the international student orientation, every August, January, and May. All international students new to the University of Dayton must attend. During Bridges, ISSS assigns immigration check-in times to students. Completing immigration check-in is vital to maintaining $\mathrm{F}-1 / \mathrm{J}-1$ status. All new undergraduate international students are also required to attend the University's New Student Orientation, for all new undergraduate students.

## Privacy Rights of Parents and Students

In compliance with Section 438 of the General Education Provisions Act, the University of Dayton has published regulations designed to protect the privacy of parents and students as to the access and to the release of records maintained by the institution (see University of Dayton Student Handbook).

## Public Safety

The Department of Public Safety seeks to provide a safe and secure environment for the entire University of Dayton community, which includes the students, faculty, staff, and visitors. The department provides police, parking, and emergency medical services to the U.D. campus community. The Student Cadet program is also operated by Public Safety. Public Safety offices are located on the ground floor of College Park Center at 1529 Brown St.

## Police

Police operations include enforcement of laws and campus regulations, criminal investigation, crime prevention, and providing for the physical security of University of Dayton property and interests. The department has primary jurisdiction for law enforcement and criminal investigation on all University of Dayton owned or controlled property, and all public property within the defined campus boundaries according to the mutual aid agreement with the City of Dayton Police Department. Police officers are all graduates of the Basic Police Academy and are sworn law enforcement officers, the same as their municipal counterparts. All full time police officers are required to maintain certification to provide emergency medical services to the campus community.

Emergency assistance is available 24 hours per day, seven days a week. Call 911 in the event of an emergency, or 229-2121 for all other assistance. (Non UD Network Phones will call the City of Dayton Police \& Fire Departments when dialing 911.)

## Parking Services

Parking Services is responsible for management of the University's more than 5,500 parking spaces located in over 50 parking lots, and with enforcement of parking regulations. Lots are patrolled daily by Parking

Services Representatives, who issue citations to violators. The following information applies to student parking.

- Campus parking facilities are extremely limited. We recommend you determine parking availability before bringing a vehicle to campus, as on street parking is also severely restricted in the vicinity of campus.
- All vehicles parked on University of Dayton property must have a valid parking permit displayed, except during open parking hours.
- First-Year residential students will NOT be permitted to bring vehicles to campus.
- Graduate/law students and graduate assistants will be sold student parking permits.
- Commuting students will be sold permits for Lot S1.
- Students living in landlord housing within one mile of campus will be sold resident student permits.
- Resident student parking priority will be given to upper class students with the highest priority being given to students with disabilities, internships, co-op, or senior education majors.
- Information concerning permit sales will be disseminated to students annually.
- All students are required to apply online through the parking website at www.udayton.edu/~safety/parking.
- Evening students are sold $N$ (night) permits, which are valid in Lot $B$ at 4:15 p.m., Lots A, C, P, and S1 at 4:00 p.m. and anytime during weekends in any campus parking lot except those marked with a double letter. N (night) permits will be honored in Lot S1 anytime during the summer sessions.
- Students may contact Parking Services at (937) 229-2128, M-F 8:00 a.m.-4:30 p.m. or at parking@notes.udayton.edu.


## Rescue Squad

The Department of Public Safety also provides around the clock emergency medical services, primarily through the support of the University of Dayton Student Volunteer Rescue Squad. The Student Volunteer Rescue Squad is comprised of full-time undergraduate students who receive their training and equipment from the Department of Public Safety. All UD Student Rescue Squad members are nationally registered EMT-Bs and volunteer their time to serve the community.

## Student Cadet Program

The Student Cadet Program consists of part-time student employees who operate the Student Escort Service through the Department of Public Safety. The Student Escort Service is a program that provides free transportation for students within the campus community with a focus on crime prevention.

## Residence Life Residence Coordinator

The Department of Residence Life seeks to intentionally engage students in the integration of a strong liberal arts education with their development as citizens and lifelong learners. The department offers graduate assistantships, as residence coordinators, in a variety of residential areas to help accomplish this effort.

A student must be accepted into a graduate program to be eligible for a residence coordinator position. For more information, please call 937-229-3321. Remuneration includes stipend, room, board, tuition remission, and a health insurance option. Submit applications and resumes to:

Department of Residence Life
206 Gosiger Hall
Dayton, Ohio 45469-0965

## Residential Living

The University of Dayton maintains a limited number of diverse housing units for graduate students. There are approximately 64 spaces for firstyear law students in University housing. Housing needs of upper-class law and graduate students also may be accommodated on a spaceavailable basis. Graduate and law students interested in University housing should contact Residence Life at 937-229-3317 upon their acceptance.

Students are advised to coordinate their housing arrangements as early as possible. If University housing is not available, information can be provided regarding private housing in the Dayton area.

## 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 also provides useful information on such subjects as University services, student organizations, and resource numbers.

The entire Student Handbook is available at the website: http:// www.udayton.edu/~studev/studenthandbook.

All Student Handbook information provided on the website may be printed from personal computers and printers.
The "University of Dayton Student Standards of Behavior" section of the the Student Handbook is printed in booklet form and distributed to all residents of UD owned housing facilities. The handbook is also available at the Kennedy Union Information Desk for students living in other residences.

Changes in disciplinary policies and procedures made during an academic year will be announced to the student population via campus email. Informing students of policy and procedure changes via campus email is considered official notification. The website version of the Student Handbook will be updated upon implementation of said change.

## Student Life and Kennedy Union

A variety of cultural, educational, social, and recreational activities are presented in the Union regularly to enrich and enhance academic life and foster a spirit of community. In addition, this office provides support, direction, and programming opportunities for students and officially recognized student organizations. Activities in the union include game shows, trivia contests, movie nights, concerts, theatrical productions, lectures, dance ensembles, and recitals by students and faculty members. Meeting rooms, a ballroom, Boll Theatre, and University vans are available for use and can be reserved by calling 229-3333 (Kennedy Union Room 241). Information about student organizations can also be found at go.udayton.edu/slku or by calling 937-229-3333 (Kennedy Union Room 241).

The John F. Kennedy Memorial Union, centrally located on the campus, offers comfortable surroundings and a variety of services for the University community. Lounges provide space for discussion, studying, and socializing. The Hangar games room on the ground-floor includes bowling lanes, pool tables, lounge space, a cafe, and video games. The ground-floor food court includes a full-service deli, pizza, southwest
cuisine, daily specials, grill favorites, and desserts. Automatic teller machines, display cases, and vending machines are housed in the Union, as are student offices for the Campus Activities Board, Christmas on Campus, Daytonian Yearbook, Flyer News, Flyer TV, Orpheus literary magazine, Student Government Association, and a lounge for commuter students. Also in the union are the Information Center, Box Office, KU Dining Services, Catering Services, and the travel agency.

Student Life and Kennedy Union is responsible for registering all student organization-sponsored events, granting recognition to all student organizations, providing assistance for organization advisers, publicity approval, programming the Flyer TV information channel, and coordinating campus-wide events. The office works directly with commuter students, Student Government Association, IFC, NPC, NPHC, Flyer News, Flyer Radio, Daytonian Yearbook, Orpheus, Campus Activities Board, the Charity Concert Committee, Christmas on Campus, and all recognized student organizations.

## Women's Center

The Women's Center at the University of Dayton (937-229-5390) is an educational space which serves to enhance the climate for women and men on campus. Located on the second floor of Alumni Hall, the Center, which includes a Resource Center, gallery space, and several reservable rooms, advances the full and active participation of women students, staff and faculty who learn and work at the University of Dayton, while promoting campus and community conversations on the role of women in society and the world. The Center accomplishes this mission by facilitating and coordinating programs and initiatives which: promote the physical and psychological well being of women through education, support services and referral; provide an ongoing assessment of the campus climate for women; promote the active and full participation of UD women through service, education, mentoring, networking, and advocacy; inculcate leadership skills; address gender-related topics; provide information to the campus community on women's issues; provide a place to build a community of scholarship to advance research on women and gender; create a welcoming and safe space for persons of different racial, social, gender, religious, and cultural backgrounds; call women and men of all faiths to explore and incorporate faith-based living into their everyday lives. Connected, distinctive, and community-building, the UD Women's Center strives to promote equality, understanding, and mutual respect and to foster a strong educational community in which women and men are supported, challenged, and prepared to learn, lead, and serve. For more information on the UD Women's Center, visit http:// womenscenter.udayton.edu.

## Admission

Choosing which college to attend is a huge endeavor, and it all begins with the application process.

Learn all about ours so your next big decision can be an informed one.

## Admission-Undergraduate

We might not be able to make it easier for you to make your college decision, but at least we'll make it easier for you to apply. All it takes to apply is a simple click.

Applications for admission to the University of Dayton are reviewed for specific academic majors or, when applicable, for undeclared status in an academic division. The admission committee reviews grade record and pattern throughout high school, selection of courses in preparation
for college, class standing or ranking (if provided by the high school), and ACT or SAT scores. The admission committee also considers the recommendation of a high school guidance counselor, along with other factors. The University of Dayton strives to admits students who possess the intellectual ability, the commitment to community, and the motivation to thrive at the University of Dayton.

## Financial Information

The University of Dayton is one of the most affordable private, Catholic schools in the country and, among comparable universities, it is an excellent value. Our graduates possess the independence, skill sets, knowledge and values preparing them for success in an ever-changing world.

## Financial InformationUndergraduate

A University of Dayton education is a lifetime investment, appreciating over the course of time. It's also an excellent value, and more than 90 percent of undergraduates receive financial assistance. Find out how more than 7,300 undergrads are making their UD dream a reality.

## 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.

Tuition, fees, room and board may be paid in full before the term begins or, in accordance with payment terms for the fall and spring semesters. Late registration fees are assessed when scheduling and registration are completed after the start of the term.

All checks should be made payable to the UNIVERSITY OF DAYTON. The student's name and student identification number should be shown on the face of each check to insure proper credit.

An assessment of $\$ 25.00+1 \%$ of the check amount will be made for payment of tuition and fees by a bad check or for any other returned check from 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 may be permitted only for students whose financial University records are clear.

## Expenses

Tuition and fees for full-time students during the 2012-13 academic year (fall and spring terms) will total about $\$ 33,4000$ (includes the Basic University Fee) plus fees where applicable. Room and board on campus for this period would be approximately $\$ 10,770.00$, based on double room occupancy, Limited 15 Meal Plan, and a Flyer Express account for weekends. Books and supplies will cost approximately $\$ 500.00$ 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 meals should be considered in the budget.

## Undergraduate Tuition and Fees August 2012 through July 2013

## Fees Payable One Time

Application fee (online registration required) Free
Application Fee (international students only) $\$ 50.00$
Counseling Center fee, payable once, at entrance $\$ 110.00$
Orientation fee, payable once, first-year resident students only $\$ 170.00$
Orientation fee, payable once, first-year commuter students only $\$ 160.00$
Miscellaneous deposit (refundable after graduation or dropout) $\$ 100.00$

## Tuition Charges in Terms I and II

Full-time undergraduate student (12-17 semester hours), per term \$16,000.00
Each semester hour over limitations stated above.(The eighteenth hour will not be charged to students with 45 hours or more of completed (graded) course work prior to the first day of the upcoming registration period.) $\$ 1,067.00$
$3 / 4$-time undergraduate student ( $8-11$ semester hours), per term
\$12,000.00
Part-time undergraduate student (1-7 semester hours), per semester hour \$1,067.00
Audit course, per undergraduate semester hour $\$ 534.00$

## Basic University Fee, Terms I and II

Full-time and $3 / 4$-time student (8 or more semester hours), per term $\$ 700.00$
Part-time student (1-7 semester hours), per term $\$ 25.00$

## Laboratory Fees, Terms I and II

Laboratory fee, per laboratory clock hour as listed in composite (not to exceed $\$ 325.00$ per term; not applicable to engineering and engineering technology students) $\$ 65.00$
Engineering surcharge fee (incorporating laboratory charges) full-time and $3 / 4$-time engineering and engineering technology students, each term $\$ 985.00$
Engineering surcharge fee (incorporating laboratory charges) part-time engineering and engineering technology students, each term per credit hour $\$ 58.00$

## Course Fees, Terms I and II

Fees are listed with the course names and times in each term's course composite.

## Tuition and Fees, Term III

Tuition per semester hour $\$ 1,067.00$
Basic University fee $\$ 25.00$
Engineering surcharge per credit hour $\$ 58.00$
Laboratory and course fees: same as in Terms I and II; laboratory fees will be charged per clock hour.

## Other Charges

Late registration service charge 25.00 per week to a maximum of $\$ 75.00$
Credit by examination, per semester hour $\$ 35.00$
CLEP per credit hour $\$ 35.00$
Graduation fee, undergraduate students $\$ 90.00$
Books and supplies variable
Semester of Service $\$ 65.00$

Transcript of credits, first copy of order by mail or in person $\$ 2.00$ Each additional copy of same order by mail or in person $\$ 1.00$ Transcript of credits, by Internet - per copy (add $\$ 2.25$ processing fee) \$2.00
Co-op student fee, per work term $\$ 65.00$

## 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 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.

## Special Students

Special students and non-matriculated students (continuing education) 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 tuition refunds will be made with the exception of the admission deposit. Housing refunds will be made in accordance with the terms of the "Student Housing Contract".

Cancellations will be allowed only after the completion of proper drop/ add procedures. 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.

Detailed housing cancellation information can be found at the Residential Services website at housing.udayton.edu.

During the four-week cancellation period for the first and second terms, tuition 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\%
(The 1st week starts on the first day of a term; the 2nd week begins 7 days later, etc.)
Lab fees, Engineering surcharge, and special course fees are 100\% refundable the first week of class during the Fall and Spring terms. Thereafter, they are refundable on the same schedule as tuition.

During the two-week cancellation period for each six-week session of the split third term, tuition 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 (please refer to your housing contract) are based on the date of checkout from housing, if applicable.

In a summer term, lab fees, Engineering surcharge, and special course fees are $100 \%$ refundable through the first three days of the term. Thereafter, they are refundable on the same schedule as tuition.
Special rules may apply for students who withdraw and who received 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 David J. Necessary-Director of Student Accounts/Bursar.

Students suspended/dismissed from the University or from University residence facilities as a result of disciplinary action are not eligible for any refund of tuition and fees or room and board charges under the University's Cancellation and Refund policy. Exceptions to this position will be made to comply with refund requirements of federal financial aid programs.

## Room and Board, per term, Terms I and II August 2012 through May 2013

## Residence Halls Single Double Quad

Marycrest Complex \$4,200.00 \$3,225.00 \$3,225.00
Stuart Complex NA \$3,225.00 \$3,225.00
Founders Hall \$3,710.00 \$2,770.00 \$1,720.00
Marianist Hall NA \$4,200.00 \$3,680.00
Marycrest Complex also offers:
Double with Bath \$3,660.00
Apartments, Suites, Undergrad Houses
Campus South Apartments $\$ 3,380.00$ per occupant
Garden Apartments
(4 or 6 students per apartment) $\$ 3,380.00$ per occupant
Lawnview Apartments $\$ 3,790.00$ per occupant
Virginia W. Kettering Suites $\$ 3,340.00$ per occupant
Irving Commons Townhouse Apartments
(4 students per apartment) \$3,260.00 per occupant
Single Apartment \$5,100.00 per occupant
Single Bedroom House $\$ 4,180.00$ per occupant
House $\$ 3,380.00$ per occupant
New House \$3,900.00 per occupant
Renovated House $\$ 3,640.00$ per occupant
Special Sorority \$4,020.00 per occupant
Caldwell Apartments
(2 students per apartment) $\$ 5,600.00$ per occupant
( 4 students per apartment) $\$ 3,900.00$ per occupant
ArtStreet
Loft Apartment (4 students) \$3,810.00 per occupant

Townhouse Apartment (6 students) \$3,970.00 per occupant

## Residence Life Policy

Each first- and second-year student (classified by a student's high school graduation year, not by the number of credit hours) under 21 years of age, unmarried, and not living at parent's/legal guardian's permanent residence within 40 miles of the University of Dayton is required to live in University housing. A completed notarized statement is required from first- and second-year students requesting to commute from a parent's/ legal guardian's permanent residence.

Each student applying for a University residence facility must complete an online residential living contract with Housing and Residence Life. The contract covers both the fall and spring terms of the academic year. Once a contract is signed, it may not be canceled without incurring substantial cost as long as the student is enrolled at the University.
Those students dropping all courses and checking out of housing during the first four weeks of school will be authorized refunds as stated under "Cancellations and Cancellation Fee".
All students living in housing facilities are required to observe all University regulations and specific regulations of each facility. Residents will be held responsible for any damages to the residential structure that are due to their own negligence, and will be billed for those damages at the time of discovery. Students will share responsibility with other residents of the structure for unidentified common area damages. Common area damage charges will be billed monthly when applicable. 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 recesses. All University residences are closed during Semester and Spring breaks.

## Dining Services

All students living in residence halls must have one of the following:
Any 15 MEAL PLAN ( 15 meals per week) - $\$ 1,945.00$
All 21 MEAL PLAN (3 meals per day, 7 days) - $\$ 2,085.00$
The Silver Plan (debit account) - \$1,865.00
The Gold Plan (debit account) - \$2,115.00
The Platinum Plan (debit account) - \$2,260.00
When a student does not choose a meal plan the default plan is the Silver Plan.

Non-resident students may purchase a Neighborhood meal plan (debit account).
For more information about meal plans, please visit http:// dining.udayton.edu.

## Payment Options

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

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

UD Payment Option - The University offers an open credit arrangement with installment provisions. All students are eligible for this plan.

Students complete a one-time Credit Account Agreement form which is automatically sent prior to the first term of enrollment. Features of the plan include:

- Four payments per semester
- Payments begin July 25 for fall term and December 27 for spring term
- Low interest charge of $1 \%$ per month on the ending balance
- No application fee and no credit review

Sallie Mae Payment Plan - The University of Dayton understands that sometimes you need some help managing your tuition bill. That's why we offer a tuition payment plan administered by Sallie Mae. The plan is a convenient, manageable payment solution that gives you the option to pay tuition in interest-free monthly installments, rather than one lump sum. The Sallie Mae tuition payment plan offers:

- More time to pay. Spread your tuition payments over a period of several months
- Interest savings. Use the plan to make monthly payments, interest free
- Convenience. You can enroll in the plan, manage your account and make payments online 24 hours a day

The tuition payment plan administered by Sallie Mae offers you the opportunity to pay your tuition, interest free, in 10 payments beginning June 1.

Go to tuitionpay.salliemae.com (catalog.udayton.edu/generalinformation/ financialinformation/undergraduate/paymentoptions/http:// tuitionpay.salliemae.com) to enroll. If you have any questions about the plan, call Sallie Mae at 1-800-635-0120 and a specialist will be happy to assist you.

## Financial Aid Policy

The University of Dayton realizes that many students need assistance financing their college education. Financial aid is available in the form of nonrepayable grants, scholarships, student loans, and part-time employment. Parent loans and monthly payment plans are also available. Priority is given to our full-time, degree-seeking students.

Students seeking financial assistance must complete the Free Application for Federal Student Aid (FAFSA) annually. Developed by the U.S. Department of Education, the FAFSA is used to determine the family's financial need after careful review of income, assets, and other houshold information. Eligibility for need-based federal, state, and universitysponsored aid is determined by comparing the total cost of attending UD with a family's available resources - as determined by the FAFSA.

The FAFSA should be submitted electronically each year (www.fafsa.gov) by March 1 to ensure that the University of Dayton receives the results by the priority deadline date of May 1 . UD's federal code is 003127.

In order to submit the FAFSA electronically, the applicant (student) and at least one parent (if deemed dependent a dependent student by FAFSA definition) must possess a federal student aid PIN number. To apply for an FSA PIN, the appropriate parties should visit www.pin.ed.gov. Students are encouraged to call the Flyers First Office or Financial Aid or meet with a Flyers First Counselor if they have questions regarding financial aid.

## Academic Scholarships for FirstYear Students

Merit based scholarships have been established to recognize academic achievement for our incoming first-year students. Applicants receive consideration for these scholarships based on the following:

- high school academic performance
- SAT or ACT scores
- demonstrated service to school, community and church
- proven leadership ability
- citizenship

Awards begin at $\$ 1,000$, and each scholarship is renewable for eight undergraduate terms. To remain eligible for these scholarships, recipients must maintain the required minimum cumulative grade point average, be enrolled full time (minimum of 12 credit hours), participate in Universitysponsored extracurricular activities, and serve as a responsible member of the university community.

## Application Procedure

1. Apply for admission to the University of Dayton by December 15th of your senior year in high school. Apply online at the University homepage.
2. Take the Scholastic Aptitude Test (SAT) and/or the American College Test (ACT) no later than December. Indicate that your scores are to be sent to the University of Dayton.

## 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 will be considered for additional scholarships. Recipients are selected on the basis of academic accomplishments, leadership, financial need, and demonstrated service to the University. These scholarships are gifts to the University of Dayton, from alumni, families, corporations, and foundations. The scholarships are awarded for a period of one academic year and generally range from $\$ 500$ to $\$ 3,000$.

## Other Scholarship Opportunities

## Athletic Scholarships

Intercollegiate athletic scholarships are awarded each year to entering students. Contact the Department of Intercollegiate Athletics at (937) 229-2100 for additional information.

## Music Scholarships

Music scholarships are awarded on a competitive basis following auditions with the music faculty. Contact the Department of Music at (937) 229-3936 for additional information.

## Visual Arts Scholarships

Visual Arts Scholarships are awarded on a competitive basis. Entering students must submit a portfolio for consideration. A number of fouryear scholarships are awarded to students who demonstrate outstanding promise in the visual arts and who plan to pursue a degree in this field. Contact the Department of Visual Arts at (937) 229-3237 for additional information.

## Additional Scholarships Administered by the University of Dayton

The University will select students as nominees for scholarships offered by certain corporations, foundations, service organizations, alumni, families, and other benefactors.

## Grants

## Federal Pell Grant

The Pell Grant Program makes funds available to eligible undergraduate students who demonstrate high financial need. Apply by completing the Free Application for Federal Student Aid (FAFSA).

## Federal Supplemental Educational Opportunity Grants

These federally supported, university-administered grants are provided to undergraduate students who have high financial need.

## University Need Based Grant

The University of Dayton offers nonrepayable grants to undergraduate students with demonstrated financial need. The University assumes that the student will also accept self-help aid in the form of loans and schoolyear employment. A University Need Based Grant is intended to cover a portion of financial need. The Free Application for Federal Student Aid (FAFSA) is required annually for consideration.

## Federal TEACH Grant

The Teacher Education Assistance for College and Higher Education (TEACH) Grant Program provides up to $\$ 4,000$ per year in grants for graduate and undergraduate students in specified majors who intend to teach full-time in high-need subject areas for at least four years at schools classified as serving low-income students. For more information, please call or visit the Office of Financial Aid.

## Loans

## Federal Perkins Loans

The Federal Perkins Loan is a federally-funded student loan, but individual schools determine eligibility requirements. Priority is given to dependent undergraduate students who demonstrate high financial need (as determined by the Free Application for Federal Student-Aid). Repayment begins nine (9) months after the student graduates, leaves school, or drops below half-time enrollment status. This loan carries a fixed interest rate of $5 \%$, but interest will not accrue until the repayment cycle begins. Repayment can be spread over a ten-year period.

## Federal Direct Loans

Federal Direct Loans are made available to all students who file the Free Application for Federal Student Aid (FAFSA). The maximum loan is $\$ 5,500$ per year for the first year, $\$ 6,500$ for the second year, and $\$ 7,500$ per year for the junior and senior years. Repayment begins six (6) months after the student graduates, leaves school, or drops below halftime enrollment status. Repayment can be spread over a ten-year period. Based on the FAFSA, the student will qualify for an Unsubsidized Direct loan, Subsidized Direct loan, or a combination of both. The Subsidized Direct loan has a fixed interest rate of $3.4 \%$ and the Unsubsidized Direct loan has a fixed interest rate of $6.8 \%$ for the 2012-2013 academic year.

## Federal Parent Loan for Undergraduate Students

The Federal Parent Loan for Undergraduate Students (PLUS) provides a source of financing to all families regardless of the family income. All credit-worthy parents of dependent undergraduate students may borrow up to the cost of education minus financial aid per academic year
for each student attending an accredited college. Standard repayment begins within sixty days after the loan is fully disbursed, however parents have the option to defer payments until their dependent student graduates. Repayment can be spread over a ten-year period. The PLUS loan has a fixed interest rate of $7.9 \%$ and an origination.

## Private Alternative Educational Loans

Private Alternative Educational Loans are also available to help meet college expenses. The University of Dayton works closely with several lenders and their private loan programs, however students are able to borrow from the lender of their choice. These private loan programs offer competitive interest rates, flexible repayment schedules, and various co-signer requirements. If you are interested in a private alternative educational loan, please contact the Office of Financial Aid or visit our website at www.finaid.udayton.edu/alternative.

## Employment

The Federal Work-Study Program (Federally supported) provides work opportunities for full-time students who demonstrate financial need. While most work opportunities are on campus, employment is also available in local agencies and area elementary schools through the Federal Work Study Community Service Program.
University-Funded Employment (University supported) opportunities for students who do not qualify for the Federal Work-Study Program are also available.
Federal Work-Study and University-Funded student workers may work up to 20 hours per week during the school term and will receive payroll checks semi-monthly for their services. Students interested in pursuing opportunities in either of these programs should apply online at jobs.udayton.edu.

## Tuition Reductions

## Tuition Remission for University of Dayton Full-time employees

Full-time benefit-eligible employees, spouses, and children, when admitted in accordance with University of Dayton admission standards, are eligible for tuition remission benefits. Eligible employees receive $100 \%$ remission for both graduate and undergraduate classes for themselves. Spouses and children are eligible for undergraduate remission only based on years of benefit-eligible service. Please refer to the appropriate University of Dayton Benefit Handbook for the schedule of dependent tuition remission. Any fees associated with a specific class or degree program are the responsibility of the employee and/or dependent.

## Senior Fellows

Students 60 years of age and over are eligible to apply through the College of Arts \& Sciences at the University of Dayton for remission of tuition.

## Additional Opportunities

## Veteran Benefits

Students who enlisted in the military as Active Duty or as Selected Reserve Status may qualify for the Montgomery G.I. Bill benefits. Students of a parent who is/was a military veteran may qualify for Educational Assistance Benefits.

For additional information, visit www.gibill.va.gov (catalog.udayton.edu/ generalinformation/financialinformation/undergraduate/ additionalopportunities/http://www.gibill.va.gov).

## Vocational Rehabilitation

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

## U.S. Army Reserve Officers Training Corps (ROTC)

Army ROTC has a number of scholarships available, affording students the opportunity to defray a majority of the costs of attending a prestigious school such as the University of Dayton. High school students compete for three- and four-year scholarships. These scholarships currently are valued at full-tuition and fees, plus University incentive grants. Two- and three-year scholarships may be available once a student is enrolled at the University. Currently, these scholarships will pay tuition and University fee expenses. In addition, students receive an allowance of $\$ 3,000$ to $\$ 5,000$ each school year the scholarship is in effect.

## U.S. Air Force Reserve Officers Training Corps (AFROTC)

The Air Force Reserve Officers Training Corps (AFROTC) program is offered in cooperation with Wright State University by the Department of Aerospace Studies. All students who complete the General Military Course (freshman and sophomore years) may have the opportunity to enroll in the advanced Professional Military Course (junior and senior years), leading to a commission in the United States Air Force upon graduation. There are opportunities throughout the program to compete for scholarships and stipend money. Refer to the Air Force Reserve Officers Training Corps (AFROTC), Chapter X.
Ohio National Guard Scholarship

- NOT based on financial need
- Available to Ohio residents enlisted in the Ohio National Guard
- Apply by contacting your local National Guard recruiter or call 1-614-336-7032


## Ohio Safety Officers Memorial Fund

- NOT based on financial need
- Available to children of Ohio Peace Officers or Ohio Firefighters killed in the line of duty
- Apply by contacting the Ohio Board of Regents


## Ohio War Orphans Scholarship

- Available to children of deceased/disabled Ohio war veterans
- Apply by contacting the Ohio Board or Regents
- Deadline July 1


## Academic Information

In this section, you can locate specifics on various academic areas/units.

## Academic InformationUndergraduate

Please select a subsection using the menu to the right.

## 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. For more information, visit the General Information sections on the four divisions.

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 and Allied Professions 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 General Education and in the Competency Program.

## Competency Program

The Competency Program commits all academic programs at the University of Dayton to the common purpose of developing distinctive graduates who possess the critical communication, reasoning, and information competencies they need to function effectively in their academic, community, and professional lives. The four competency areas are part of both general and graduation competencies. General competencies form a base for effective written and oral expression, critical and quantitative reasoning, and processing and presenting print and electronic information. The general competencies are required for graduation in all four-year programs and are strongly emphasized in first-year courses and continue to be developed through a student's work in General Education, initial courses in the major, and lower-level electives. Academic departments and programs define the graduation competencies. Graduation competencies emphasize further development
and maturation of the competency areas through courses in the major discipline and upper-level electives.

## Reading and Writing General Competencies

The University's general reading and writing competency requirements are satisfied by completing ENG 100 (or ENG 100A and 100B) and ENG 200 , or ENG 200 H , or ASI 120 with a grade of C- or higher. Students admitted to the University Honors program and students with sufficiently high verbal scores on the SAT and ACT are placed in ENG 200 H . ENG 200 H is a one-semester courses which satisfies the University requirement. Students who are placed in ENG 200 H do not receive credit for ENG 100 but are free to take elective course work in place of the waived first semester of composition.

All incoming first-year students are placed in ENG 100 unless:

- they are designated as Honors - placed in ENG 200H
- they are placed in ENG 200 H (receive EM credit for ENG 100). For a score of 5 they receive EM credit for ENG 100 and ENG 200.
- they have an SAT (VB) score of 750 or above, or ACT (EN) of 35 or above - exempt from taking English composition
- they have an ST (VB) score below 17, or ACT (EN) below 450-placed into ENG 100A and ENG 100B
- they are in the CORE program (ASI 120 counts as ENG 200H)


## Oral Communication General Competencies

The University's general oral communication competency requirements are satisfied by completing CMM 110 Group Dec-Making, CMM 111 Inform Public Sp or CMM 112 Persuasive Public Sp, and CMM 113 Interviewing for a total of three semester hours. Each of these one-hour communication modules must be completed with a C- or higher in order to satisfy the general competency requirement. No waiver exams are available for these modules.

Each of the modules covers a specific and limited context of communication - Group Decision Making (CMM 110), Informative Public Speaking (CMM 111), Persuasive Public Speaking (CMM 112), and Interviewing (CMM 113). Each module is focused on a series of communication competencies. The modules are taught in five week sessions or "mini-terms."
Students are encouraged to consult with their academic advisor, school or the College about when to register for each of the modules. Typically students, not majoring in Communication, will take CMM 110 during the first year, CMM 111 OR CMM 112 during the second year, and CMM 113 second semester junior year or during the senior year. Quantitative Reasoning General Competencies

In order to graduate, students are required to satisfy the Quantitative Reasoning Competencies. There are two tracks, and students must satisfy one of these tracks. The specific track followed by the student is determined by the student's major. Students should complete the track by the end of the sophomore year. The tracks are not described here; only how they are satisfied.

## Track 1: Analysis Track

To satisfy Track 1, a student must complete one of the following courses with a grade of C- or better, or earn EM credit for MTH 168 Anly Geom \& Calc I based on AP examinations, or earn appropriate transfer credit.

| MTH 129 | Calc for Business | 3 |
| :--- | :--- | :--- |
| MTH 137 | Calc I with Review | 4 |
| MTH 138 | Calc I with Review | 4 |
| MTH 148 | Introductory Calc I | 3 |


| MTH 149 | Introductory Calc II | 3 |
| :--- | :--- | :--- |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| Total Hours |  | 29 |

## Track 2: Descriptive Statistics

To satisfy Track 2, a student must complete one of the following courses with a grade of C- or better, or earn EM credit for MTH 207 Intro to Statistics based on AP examinations, or earn appropriate transfer credit.

| MTH 114 | Contemporary Math | 3 |
| :--- | :--- | :--- |
| MTH 205 | Math Concepts II | 3 |
| MTH 207 | Intro to Statistics | 3 |
| Total Hours |  | 9 |

If you have questions, please contact Dr. Joe Mashburn, Chairperson of the Department of Mathematics, at JMashburn1@udayton.edu.

## Information Literacy General Competencies

The University's general information literacy competencies cover five areas and are integrated into the curriculum. Students develop effective strategies for:

- Using information technologies when seeking knowledge
- Understand the structure, form, and access methods of recorded information
- Demonstrate the ability to evaluate and analyze the information gathered from a variety of sources
- Use information and information technology responsibly and ethically
- Demonstrate an interest in and ability for life-long learning about information technology.

Although responsibility for initial Information Literacy training rests within each academic unit, the Introduction to the University, Humanities Base, and General Education courses provide the opportunity to establish a solid foundation to develop the competencies.

## Graduation Competencies

Graduation competencies emphasize further development and maturation of the competency areas through courses in the major discipline and upper-level electives. Each program and department establishes its own graduation reading and writing, oral communication, quantitative reasoning, and information literacy competency requirements. Contact department chairpersons or program directors for information on satisfying these requirements.

## First-Year Experience Program

The University First-Year Experience Program includes a course, offered for a minimum of one credit, for all first-year students in the College of Arts and Sciences, the School of Business Administration, the School of Education and Allied Professions, and the School of Engineering. This course is combined with selected programs and services offered by Student Development, Campus Ministry, and academic support programs. First-year students entering in January and transfer students will be offered an alternative program to meet their needs.

## The First-Year Experience Program

- Introduces the distinctive nature of the Catholic/Marianist educational experience as a foundation for learning and life
- Provides an academic foundation that helps students develop as connected learners, acquire general competencies necessary for their success, understand the nature and requirements of chosen and/or potential programs of study, and be aware of a range of opportunities for enriching their academic experience on campus, across the nation, and around the world
- Prepares students in critical reflection on the moral and ethical dimensions of their lives, challenges students to treat each individual with equality and respect, fosters the recognition of individual rights and responsibilities of each member of the community, and establishes integrity as central to professional and career decisions
- Promotes the development of self-understanding and skills that enable students to take responsibility for their academic success and lifelong learning
- Promotes and supports, both in and out of the classroom, the physical, emotional, spiritual, and psychological health of all students
- Nurtures students' creativity and varied talents; and leads to enriched lives of learning, leisure, solitude, leadership, and service.


## First-Year Experience Course

Every first-year student entering in the fall term must complete the First-Year Experience course offered by his or her academic division. This course will be offered for a minimum of one credit. The First-Year Experience course will not count against the seventeen credits per term limit covered by full-time tuition.
For first-year students entering the University in the winter term and for transfer students, each division will develop a plan to meet the goals of the First-Year Experience while serving the specific needs of these students.

The First-Year Experience courses offered by each division and units within divisions must include common elements as approved by the University. Beyond these common elements the divisions and academic units offering the course will have a great deal of flexibility in how the course is offered and what will be included in the syllabus.

## 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.

Complete information on the General Education Program is available at http://udayton.edu/gened/.

## 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 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, HST 103 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. Introductory courses in both philosophy and religious studies 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:

## History

## Philosophy

PHL 103 Intro To Philosophy 3

Religious Studies

| REL 103 | Intro to Religion (Choice of Catholic, general, or <br> scripture option) | 3 |
| :--- | :--- | :--- |
| English |  |  |
| ENG 200 | Writing Seminar II | 3 |
| or ENG 200H | Writing Seminar II |  |

Students in the Core Program take ASI 110 and ASI 120 to satisfy the history, religious studies, and philosophy requirements in the Humanities Base, as well as Core-designated sections of English composition. The history portion of ASI 120 completes the second of the two courses for the Historical Study domain of knowledge.

## 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. The Guide to the University of Dayton General Education Program describing all approved clusters and their course offerings is distributed to all students at http://udayton.edu/gened/.

## 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. You can view courses that have been approved by the University for General Education credit by visiting http://www.udayton.edu/gened/.

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. Students should consult their advisors to learn which courses are permissible in their own majors.

## Courses Approved for General Education

## Arts Study

All students must complete one Arts Study course to satisfy General Education Requirements. This course is in addition to the Humanities Base English course (ENG 200, or ENG 200H). This requirement may be satisfied by Arts Study courses that are either included in or
independent of a thematic cluster. General Education courses that satisfy this requirement are:

| ASI 341 | Topics Arts Study (Restrictions: Specific topics approved for designated cluster. Consult semester class schedule.) | 1-3 |
| :---: | :---: | :---: |
| ASI 357 | Vocation \& the Arts | 3 |
| CLA 203 | Classical Mythology | 3 |
| CMM 355 | Rhetoric-Soc Movements | 3 |
| ENG 151 | Intro to Literature | 3 |
| ENG 203 | Maj British Writers | 3 |
| ENG 204 | Major Amer Writers | 3 |
| ENG 205 | Major World Writers | 3 |
| ENG 301 | Survey-Early Eng Lit | 3 |
| ENG 302 | Survey-Later Eng Lit | 3 |
| ENG 305 | Survey-American Lit | 3 |
| ENG 306 | Surv-Continentl Lit | 3 |
| ENG 320 | Contemporary Drama | 3 |
| ENG 322 | Mastrpc-World Lit | 3 |
| ENG 323 | Lit-Christn Tradtn | 3 |
| ENG 333 | Images-Women in Lit | 3 |
| ENG 334 | Modern Men-Images | 3 |
| ENG 335 | African Amer Lit | 3 |
| ENG 336 | Gender in Fiction | 3 |
| ENG 338 | Images of Business | 3 |
| ENG 339 | American Indian Lit | 3 |
| ENG 340 | Prison in Lit | 3 |
| ENG 341 | Asian-American Lit | 3 |
| ENG 342 | Lit and Environment | 3 |
| ENG 345 | Colonl\&Postcolnl Lit | 3 |
| ENG 346 | Lit \& Human Rights | 3 |
| ENG 348 | Modern Irish Lit | 3 |
| ENG 350 | Eurpn Lit-Antiquity | 3 |
| ENG 353 | Lit-Renaissance | 3 |
| ENG 354 | Lit-Enlightenment | 3 |
| ENG 355 | Lit-Romantic Age | 3 |
| ENG 356 | Eurpn Lit-19th Cent | 3 |
| ENG 357 | Eurpn Lit-Early 20th | 3 |
| ENG 358 | Contemp Lit-Europe | 3 |
| ENG 360 | Latina/Latino Lit | 3 |
| ENG 362 | Shakespeare | 3 |
| ENG 363 | Shakespear's Worlds | 3 |
| ENG 382 | Mozart's Operas | 3 |
| ENG 383 | Tragic Dilemma (Restrictions: for Core only) | 3 |
| ENG 384 | Chrstnty\&Mod Poetry | 3 |
| FRN 352 | Old World\&New (ENG) | 3 |
| FRN 452 | Old Wrid Meets New | 3 |
| GER 351 | German Film | 3 |
| GER 361 | Survey of Ger Lit I | 3 |
| GER 362 | Survey of Ger Lit II | 3 |
| HMS 360 | Latin Amer Tru Lit | 3 |
| MUS 201 | Music in Concert | 3 |
| MUS 203 | Sights \& Sounds-Music | 3 |


| MUS 205 | Mus, Instrumnts \& Tech | 3 |
| :--- | :--- | :--- |
| MUS 232 | Integrating the Arts | 2 |
| MUS 302 | Mus Hist \& Lit II (Restrictions: for MUE, MUS only) | 3 |
| MUS 303 | Intro World Music | 3 |
| MUS 304 | Hst of Amer Music | 3 |
| MUS 305 | Africn Amer Sac Mus | 3 |
| MUS 306 | History-Amer Jazz | 3 |
| MUS 307 | Dev Amer Poplr Song | 3 |
| MUS 309 | Opera Hst \& Lit | 3 |
| MUS 327 | Music in Film | 3 |
| MUS 328 | Hst-Amer Musical | 3 |
| MUS 350 | Sacred Music Hst | 3 |
| SEE 303 | Constructns of Place | 3 |
| THR 105 | Intro to Theatre | 3 |
| VAE 232 | Integrating the Arts | 2 |
| VAH 101 | Intro-Visual Arts | 3 |
| VAH 201 | Survey of Art I | 3 |
| VAH 202 | Survey of Art II | 3 |
| VAH 203 | Survey of Art III | 3 |
| VAH 483 | 20th Century Art II | 3 |

## Historical Study

All students must complete two Historical Study courses to satisfy General Education Requirements. The first Historical Study course, (HST 103 or ASI 110), 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 restriction on certain Historical Study courses apply both to the majors indicated and the second disciplines. (Education students should see checklists.) General Education courses that may satisfy the requirement for a second course in Historical Study are:

| AMS 301 | Interps of Amer Cult | 3 |
| :---: | :---: | :---: |
| ASI 110 | Dev West Global Ctxt (Restrictions: for Core only--meets HST and REL humanities base requirements) | 6 |
| ASI 120 | Dev West Global Ctxt (Restrictions: for Core only--meets HST cluster requirements and PHL Humanities Base requirement) | 6 |
| ASI 320 | Cities and Energy | 3 |
| ASI 342 | Topics Hst Study (Restrictions: Specific topics approved for designated cluster. Consult semester class schedule.) | 1-3 |
| CMM 350 | Propaganda Analysis | 3 |
| CMM 416 | Devlpmnt-Mass Media (Restrictions: for CMM only) | 3 |
| GER 341 | Ger Culture\&Civilzn | 3 |
| HSS 275 | Hist-PE \& Sport (Restrictions: for HSS only) | 3 |
| HST 103 | West and World | 3 |
| HST 198 | HST Scholars Sem | 3 |
| HST 251 | Amer Hst to 1865 | 3 |
| HST 252 | Amer Hst Since 1865 | 3 |
| HST 302 | Ancient Greece | 3 |
| HST 303 | Hst Roman Rep\&Emp | 3 |
| HST 304 | Ancint Hst\&Mod Idlgy | 3 |
| HST 305 | Medieval Europe | 3 |


| HST 307 | Renaissance\&Reformtn | 3 |
| :---: | :---: | :---: |
| HST 313 | Europe 1815-1914 | 3 |
| HST 314 | Europe 1890-1945 | 3 |
| HST 315 | Europe 1945-Present | 3 |
| HST 322 | History of England | 3 |
| HST 324 | Comp Nationalism | 3 |
| HST 326 | Hst-Sov Un 1860-Pr | 3 |
| HST 327 | Natnl Cult-Sov Union | 3 |
| HST 330 | Hst E Asia to 1800 | 3 |
| HST 333 | Hst of Mode Mdle East | 3 |
| HST 334 | Hst Pal-Isrl Cflct | 3 |
| HST 336 | Hst-Africa 19th Cn | 3 |
| HST 337 | Hst Afr-19th Cn-Pr | 3 |
| HST 340 | History of Science | 3 |
| HST 341 | Hstrcl Pers-Sci,Tech | 3 |
| HST 342 | Environ Hst Americas | 3 |
| HST 343 | Hst-Civil Engr | 3 |
| HST 344 | Hst-Sci,Tch\&Mod Crp | 3 |
| HST 346 | Hist of Aviation | 3 |
| HST 347 | Sex,Race \& Sicence | 3 |
| HST 349 | Tech\&Culture-War | 3 |
| HST 350 | Gay Lesbian US HST | 3 |
| HST 351 | Women Gender Am | 3 |
| HST 352 | Hst of Amer Family | 3 |
| HST 353 | Hst-Wom in Eurp Soc | 3 |
| HST 354 | Hst-Women Mid East | 3 |
| HST 355 | American Urban Hist | 3 |
| HST 356 | Women in Third World | 3 |
| HST 357 | Latin Amer-20th Cen | 3 |
| HST 358 | Soc\&Cult Hst-Lat Am | 3 |
| HST 359 | HST-Amer City Plan | 3 |
| HST 360 | US Legl/Const Hst I | 3 |
| HST 361 | US Legl/Const Hst II | 3 |
| HST 365 | Amer Films as Hst | 3 |
| HST 370 | Eco \& Bus Hst-US | 3 |
| HST 372 | Hst-Rel in US | 3 |
| HST 374 | Ireland \& America | 3 |
| HST 375 | US Foreign Relations | 3 |
| HST 376 | Soc \& Cult Hst of US | 3 |
| HST 377 | Contemprary Amer Hst | 3 |
| HST 378 | Hst Globl Immgnts-US | 3 |
| HST 380 | Native Amer History | 3 |
| HST 382 | History of Mexico | 3 |
| HST 383 | Hst of Caribbean | 3 |
| HST 385 | Atlantic World | 3 |
| HST 391 | Amr Arch Hst\&Prsrvtn | 3 |
| HST 398 | Hs Blks-US 1526-1900 | 3 |
| HST 399 | Hst Blks-US s/1900 | 3 |
| MST 310 | Read Signs Time | 3 |
| MUS 301 | Mus Hist \& Lit I (Restrictions: for MUE, MUS only) | 3 |
| PSY 471 | Hst of Psychology (Restrictions: for PSY only) | 3 |
| THR 415 | Hst of the Theatre I (Restrictions: for THR only) | 3 |


| THR 425 | Hst of Theatre II (Restrictions: for THR only) | 3 |
| :--- | :--- | :--- |
| VAH 360 | Art History\&Feminsm | 3 |
| VAH 382 | Hst of Photogrphy I (Restrictions: for PHO only) | 3 |
| VAH 480 | 20th Century Art I (Restrictions: for ART, EAR and | 3 |
|  | FAE only) |  |

## Philosophy

All students complete PHL 103 and REL 103 or ASI 110 and ASI 120, as part of the Humanities Base. Students are required to take an additional two courses in philosophy and/or religious studies to satisfy General Education Requirements. This requirement may be satisfied by philosophy and/or religious studies courses that are either included in or independent of a thematic cluster.

| ASI 120 | Dev West Global Ctxt (Restrictions: for Core |
| :--- | :--- | :--- |
| only--meets HST cluster requirement and PHL |  |$\quad 6$


| PHL 345 | PHL Scholars Sem | 3 |
| :--- | :--- | :--- |
| PHL 350 | Classical Greek PHL | 3 |
| PHL 351 | Medievel Philosophy | 3 |
| PHL 352 | Modern Philosophy | 3 |
| PHL 353 | Kant\&19th Cent Phl | 3 |
| PHL 354 | 20th Century Phl | 3 |
| PHL 355 | Asian Philosophy | 3 |
| PHL 356 | Christian Philosophy | 3 |
| PHL 357 | Radical Philosophy | 3 |
| PHL 358 | Marxist Philosophy | 3 |
| PHL 360 | Existentialism | 3 |
| PHL 361 | American Philosophy | 3 |
| PHL 363 | African Philosophy | 3 |
| PHL 364 | Race, Gender\&Phl | 3 |
| PHL 365 | Islamic PhI\& Culture | 3 |
| PHL 370 | Political Philosophy | 3 |
| PHL 371 | Phl \& Human Rights | 3 |
| PHL 372 | Values \& Economics | 3 |
| PHL 373 | Phl\&Cultr Diversty | 3 |
| PHL 375 | Ethical Theory | 3 |
| SEE 401 | Sustnblty Research I | 3 |
| SEE 402 | Sustnblty Resrch II | 3 |

## Religious Studies

All students complete REL 103and PHL 103, or ASI 110 and ASI 120, as part of the Humanities Base. Students are required to take an additional two courses in philosophy and/or religious studies to satisfy General Education Requirements. This requirement may be satisfied by philosophy and/or religious studies courses that are either included in or independent of a thematic cluster.

| ASI 110 | Dev West Global Ctxt (Restrictions: for Core <br> only--meets HST and REL humanities base <br> requirements) | 6 |
| :--- | :--- | :--- |
| ASI 324 | Cities and Suburbs | 3 |
| ASI 371 | Prf Eth GlgI Cm-Bus (Restrictions: for Core only) | 3 |
| ASI 372 | Prf Eth GlgI Cm-Edu (Restrictions: for Core only) | 3 |
| ASI 373 | Prf Eth GlgI Cm-Egr (Restrictions: for Core only) | 3 |
| ASI 375 | Prf Eth GlgI Cm-Rel (Restrictions: for Core only) | 3 |
| MST 311 | Read Signs Time | 3 |
| MUS 352 | Udstg Scrd Mus\&Wrshp | 3 |
| REL 103 | Intro to Religion | 3 |
| REL 198 | REL Scholars Sem | 3 |
| REL 304 | Hinduism | 3 |
| REL 305 | Eastern Orthodoxy | 3 |
| REL 306 | Buddhism | 3 |
| REL 307 | Judaism | 3 |
| REL 308 | Islam | 3 |
| REL 309 | Afro-Latin Religions | 3 |
| REL 310 | The Pentateuch | 3 |
| REL 311 | The Prophets | 3 |
| REL 315 | The Gospels | 3 |
| REL 316 | New Testmnt Theolgs | 3 |
| REL 318 | Studies in Paul | 3 |
| REL 319 | Book of Revelation | 3 |


| REL 323 | Hst-Christianty I | 3 |
| :---: | :---: | :---: |
| REL 324 | Hst-Christianty II | 3 |
| REL 326 | Protestant Christnty | 3 |
| REL 327 | US Religious Expr | 3 |
| REL 328 | US Cath Experience | 3 |
| REL 329 | African Amer Rel | 3 |
| REL 344 | Christian Marriage | 3 |
| REL 356 | Chr Tradition-Prayer | 3 |
| REL 358 | Liberation Theology | 3 |
| REL 360 | Christian Ethics | 3 |
| REL 362 | Chr Famly Values\&TV | 3 |
| REL 363 | Faith \& Justice | 3 |
| REL 365 | Chr Ethics\&Environ | 3 |
| REL 366 | The Holocaust | 3 |
| REL 367 | Chr Ethics\&HIth Care | 3 |
| REL 368 | Chr Ethics\&Bus World | 3 |
| REL 369 | Chrstn Ethics \& Engr | 3 |
| REL 372 | Religion \& Film | 3 |
| REL 373 | Religion\&Literature | 3 |
| REL 374 | Religion \& the Arts | 3 |
| REL 375 | Religion \& Science | 3 |
| REL 376 | Theol\&Soc Sciences | 3 |
| REL 377 | In Jrny:Myth,Bibl\&Lt | 3 |
| REL 383 | Phil of Rel Educ | 3 |
| REL 429 | Modern Catholicism | 3 |
| REL 437 | Significance-Jesus | 3 |
| REL 440 | The Church | 3 |
| REL 441 | Theology of Mary | 3 |
| REL 443 | The Sacraments | 3 |
| REL 446 | Chrstn Liturgy | 3 |
| REL 447 | Sel Cath Doctrines | 3-4 |
| REL 471 | Women and Religion | 3 |
| REL 472 | Ecology \& Religion | 3 |
| REL 474 | Women-Global Church | 3 |
| REL 488 | Spiritualty\&Rel Educ | 3 |

## Physical \& Life Science

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. Students should consult with their advisors about specific requirements or recommendations related to their majors.

| BIO 101 | General Biology I | 3 |
| :--- | :--- | :--- |
| BIO 151 | Concepts of Bio I | 3 |
| BIO 152 | Concepts of Bio II | 3 |
| BIO 340 | Cltr Biodiv\&Res Mgt | 3 |
| BIO 360 | Island Environ Bio | 3 |
| BIO 395 | Global Envr Biology | 3 |
| CEE 390 | Envr Pollutn Cntrl (Restrictions: not for CEE | 3 |
|  | majors) |  |
| CHM 123 | General Chemistry | 3 |
| CHM 124 | General Chemistry | 3 |


| CHM 200 | Chemistry \& Society | 3 |
| :---: | :---: | :---: |
| CHM 234 | Energy Resources | 3 |
| CHM 496 | Prof Practice Seminr (Restrictions: for CHM only) | 0 |
| EGR 320 | Sys Des Scholars Sem (Restrictions: Berry Scholars only) | 3 |
| GEO 103 | Prin of Geography (Restrictions: not for BIO, CHM, GEO, PHY, or those who have taken GEO 109 or GEO 115 ) | 3 |
| GEO 109 | General Geology | 3 |
| GEO 115 | Physical Geology | 3 |
| GEO 116 | Geolgcl Hst-Earth | 3 |
| GEO 204 | Geology for Teachers (Restrictions: for ECE, EMS, EMM only) | 4 |
| GEO 208 | Environmentl Geology | 3 |
| GEO 218 | Engineering Geology | 3 |
| GEO 234 | Energy Resources | 3 |
| HSS 305 | Human Anatomy (Restrictions: for HSS, MUT only) | 3 |
| HSS 307 | Human Physiology (Restrictions: for HSS only) | 3 |
| PHY 105 | Phy Sci Energy \& Env | 3 |
| PHY 108 | Phy Sci-Light\&Color | 3 |
| PHY 201 | General Physics | 3 |
| PHY 202 | General Physics | 3 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| PHY 208 | Gen Phy III Mec Wavs | 3 |
| PHY 250 | Descriptve Astronomy | 3-4 |
| SCI 190 | The Physical Universe (Restrictions: INSS) | 3 |
| SCI 210 | The Dynamic Earth (Restrictions: INSS) | 3 |
| SCI 220 | World of Chemistry (Restrictions: INSS) | 3 |
| SCI 230 | Org,Evol,Envrmnt (Restrictions: INSS) | 3 |
| SCI 240 | Org, Evl, Health (Restrictions: INSS) | 3 |
| SEE 301 | Glbl Chng\&Erth Sys | 3 |

## Social Science

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. General Education courses that satisfy this requirement are:

| AMS 300 | American Cultures | 3 |
| :--- | :--- | :---: |
| ANT 150 | Cultural Anthropolgy | 3 |
| ANT 300 | Evolutn-People\&Cultr | 3 |
| ANT 360 | Cultures-South Asia | 3 |
| ASI 322 | Cities and Suburbs | 3 |
| ASI 345 | Topics Soc Sci Study (Restrictions: Specific <br> topics approved for designated cluster. Consult | $1-3$ |
|  | semester class schedule.) |  |
|  | Chrstny,Ctzshp\&Socty | 3 |
| ASI 358 | Intercultural Comm | 3 |
| CMS 316 | Global Communication | 3 |
| CMS 414 | Women \& Communication | 3 |
| CMS 415 | Prin of Microecon | 3 |
| ECO 203 | Prin of Macroecon | 3 |
| ECO 204 | Eco Develop \& Growth | 3 |


| ECO 461 | International Econ | 3 |
| :---: | :---: | :---: |
| EDT 303 | Schl,Self\&Society | 3 |
| HSS 325 | Women in Sport | 3 |
| POL 101 | Global Politics | 3 |
| POL 306 | Pub Policy Analysis | 3 |
| POL 321 | Russia\&New States | 3 |
| POL 331 | Ntlsm \& Ethno Poltcs | 3 |
| POL 371 | Environmental Policy | 3 |
| POL 450 | Civil Liberties | 3 |
| PSY 101 | Introductory Psych | 3 |
| PSY 334 | Industrial Psycholgy | 3 |
| PSY 341 | Social Psychology | 3 |
| PSY 375 | Psychlgy of the Arts | 3 |
| PSY 443 | Psychology of Women | 3 |
| PSY 444 | Environmtl Psychlgy | 3 |
| PSY 445 | Tech,Envrmnt,Behavr | 3 |
| SOC 204 | Mod Social Problems | 3 |
| SOC 321 | Soc of Work\&Occuptns | 3 |
| SOC 322 | Sex Roles \& Society | 3 |
| SOC 326 | Law \& Society | 3 |
| SOC 328 | Racial\&Eth Minorties | 3 |
| SOC 331 | Marriage \& Family | 3 |
| SOC 332 | Sociology of Women | 3 |
| SOC 339 | Social Inequality | 3 |
| SOC 341 | Self \& Society | 3 |
| SOC 343 | Mass Comm-Mdrn Socty | 3 |
| SOC 352 | Community | 3 |
| SOC 398 | Soc Sci Scholrs Sem (Restrictions: Berry Scholars only) | 3 |
| SWK 331 | Death, Dying\&Suicide | 3 |

## Non-Disability Related Course Waiver Policy

Students may make a request to their department or dean to waive certain required courses. In such cases, students may be required to submit proof of prior knowledge in the subject area (diplomas, certificates, portfolios, auditions, transcripts, etc.). At the request of the dean's office or department, students may be asked to complete departmental exams or to submit additional documentation and records of consultation.

Waiving a course does not confer credit. Students replace a required course (the one which has been waived) with another course that carries the same or more number of credit hours and is at an equal or higher course level. Determination of the appropriate course must take place in consultation with the department and dean's office. This policy applies to all waived courses, including those waived by means of placement exams. In addition, this policy does not apply to students with disabilities who require a course substitution due to a disability. Students with disabilities should consult appropriate university policy for course substitution due to disability.

Any exceptions to this policy are made at the discretion of the appropriate Dean's office.

## 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. 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, A-, B+, B, B-, C+, C, C-, D, F
- Option 2-S/NC-Satisfactory (C- or higher)/No Credit (D, F)
- Option 3-EM-Examination Credit

In addition to those courses which must be taken under Option 2, a student may take a maximum of fifteen semester hours under Option 2 within the hours required for graduation in the degree program. A student may take any course beyond the minimum hours required for graduation in the degree program under Option 2. All courses that are used to fulfill General Education and Competency requirements must be taken under Option 1. The college/school or department may place further restrictions on the use of Option 2. Exceptions to this policy may be made by the dean (or the dean's designee) of the college/school in which a student is enrolled. 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, 4.0 quality points are allowed.
- A- - For each semester hour, $3.6667 q u a l i t y ~ p o i n t s ~ a r e ~ a l l o w e d . ~$
- B+ - For each semester hour, 3.3333 quality points are allowed.
- B - Good, for each semester hour, 3.0 quality points are allowed.
- B- - For each semester hour, 2.6667 quality points are allowed.
- C+ - For each semester hour, 2.3333 quality points are allowed.
- C - Fair; for each semester hour, 2.0 quality points are allowed.
- C- - For each semester hour, 1.6667 quality points are allowed.
- D - Poor but passing; for each semester hour, 1.0 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 or retaken, preferably at the next opportunity.
- S - Satisfactory. This mark indicates credit given for a course taken under grading Option 2, C- or higher. 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 repeated or retaken, preferably at the next opportunity.
- 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. These include, but are not limited to, financial difficulties and matters of personal or family health. Documentation may be required. 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 one signature from the student's Academic dean. 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 grade-point average.
- IP - 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. Replaced "P" in September 2008.
- 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.
- R- Retaken. An undergraduate student who receives a grade of $D$ or F in a course taken under Option 1 at the University of Dayton may retake that course under Option 1 at the University of Dayton and remove the original $D$ or $F$ from the cumulative GPA. When a course has been retaken and the subsequent grade is higher than or equal to the previous grade, the previous grade will not count towards the student's cumulative GPA. The transcript will reflect this event by noting the original grade with an "E" (Grade Excluded) and the term and cumulative GPA's will be adjusted. A student may have no more than 15 semester hours of "retaken" grades. Cumulative grade point averages will reflect the changes within 30 days after the grades are posted.

If a student retakes a course in which the topics vary, it must be demonstrated that the retaken course contains the same material as the original course in which the student received a D or F. Courses taken by students prior to the initiation of this policy, and before completion of an undergraduate degree, may be retaken within the guidelines of this policy.

Exceptions to this policy may be made by the dean (or the dean's designee) of the school or college in which the student is enrolled.

## Addendum to Retake Policy

When a student retakes a course which he or she has taken more than once previously, the retaken course will serve to replace both previous grades (if it is the same as or higher than each). The number of "retaken hours" will be counted as the total hours for the two courses in which the grades are replaced; e.g., if a student retakes PSY 101 in which he or she had previously earned F two times, the new passing grade will replace both Fs, but will count as 6 credit hours taken instead of 3 . This student will then be able to take up to 9 additional course grades.

## 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 registrar. 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 changes 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

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.
Cumulative Grade-Point Average:
Is the total number of cumulative quality points divided by the number of cumulative credit hours carried by the student under Option 1. If a course is repeated, the grade points for both the original grade and the new grade are computed. If a course is retaken (see R) and the subsequent grade is higher than or equal to the previous grade, the previous grade will not count towards the student's CGPA henceforth. Marks of I, K, N, IP, S, W, X, NC, and EM are disregarded in the computation of the CGPA.

Cumulative Academic Unit Grade-Point Average:
Includes only those courses completed at the University of Dayton and required for the specific degree obtained and/or approved for inclusion by the student's school or college.

## Grade Appeals

Procedures for the appeal of grades differ for the College of Arts and Sciences and the Schools of Business Administration, Education and Allied Professions, and Engineering. The student should consult the
appropriate dean's office for the grade appeal procedure which would apply to the student's discipline.

## The Academic Honor Code

## I. Introduction

As a Marianist, Catholic university committed to the education of the whole person, The University of Dayton expects all members of the academic community to strive for excellence in scholarship and in character. As stated in the University's Student Handbook, "The University of Dayton expects its faculty and administration to be instrumental in creating an environment in which its students can develop personal integrity."

To uphold this tradition, the University community has established an academic honor code for all of its students, except Law students who are governed by The University of Dayton School of Law Honor Code. Students are expected to be aware of and abide by the honor codes.

## II. The Honor Pledge

The University of Dayton Academic Honor Code: A Commitment to Academic Integrity

I understand that as a student of the University of Dayton, I am a member of our academic and social community, I recognize the importance of my education and the value of experiencing life in such an integrated community, I believe that the value of my education and degree is critically dependent upon the academic integrity of the University community, and so

In order to maintain our academic integrity, I pledge to:

- Complete all assignments and examinations according to the guidelines provided to me by my instructors,*
- Avoid plagiarism and any other form of misrepresenting someone else's work as my own,
- Adhere to the Standards of Conduct as outlined in the Academic Honor Code.

In doing this, I hold myself and my community to a higher standard of excellence, and set an example for my peers to follow. Instructors shall make known, within the course syllabus, the expectations for completing assignments and examinations at the beginning of each semester. Instructors shall discuss these expectations with students in a manner appropriate for each course.

* The term instructor may refer to any faculty or staff member


## III. Standards of Conduct

Regardless of motive, student conduct that is academically dishonest, evidences lack of academic integrity or trustworthiness, or unfairly impinges upon the intellectual rights and privileges of others is prohibited. A non-exhaustive list of prohibited conduct includes:

## A. Cheating on Exams and Other Assignments

Cheating on examinations consists of willfully copying or attempting to consult a notebook, textbook, or any other source of information not authorized by the instructor; willfully aiding, receiving aid, or attempting to aid or receive aid from another student during an examination; obtaining or attempting to obtain copies of any part of an examination (without permission of the instructor) before it is given; having another person take the exam; or any act which violates or attempts to violate the stated conditions of an examination. Cheating on an assignment consists of willfully copying or attempting to copy all or part of another student's assignment or having someone else complete the assignment when
class assignments are such that students are expected to complete the assignment on their own. It is the responsibility of the student to consult with the instructor concerning what constitutes permissible collaboration and what materials are allowed to be consulted.

## B. Committing Plagiarism and Using False Citations

Plagiarism consists of quoting or copying directly from any source of material without appropriately citing the source and identifying the quoted material; knowingly citing an incorrect or fabricated source; or using ideas (i.e. material other than information that is common knowledge) from any source of material without citing the source and identifying the borrowed material. Students are responsible for educating themselves as to the proper mode of attributing credit in any course or field. Instructors may use various methods to assess the originality of students' work, such as plagiarism detection software.

## C. Submitting Work for Multiple Purposes

Students are not permitted to submit their own or other's work (in identical or similar form) for multiple purposes without the prior and explicit approval in writing of all instructors to whom the work will be submitted. This includes work first produced in connection with classes at the University of Dayton as well as other institutions attended by the student or at places of employment.

## D. Submitting False Data or Deceptive Information

The submission of false data is a form of academic fraud. False data is that which has been fabricated, altered, or contrived in such a way as to be deliberately misleading or to fit expected results. Deception is defined as any dishonest attempt to avoid taking examinations or submitting assignments at the scheduled times by means such as a forged medical certification of absence. Deception also includes falsifying class attendance records or failing to reveal that someone falsified your attendance. Extenuating circumstances such as a personal illness, death in the family, etc. must be negotiated with the instructor.

## E. Falsifying Academic Documentation and Grade Alteration

Any attempt to forge or alter academic documentation (including transcripts, letters of recommendation, certificates of enrollment or good standing, and registration forms) concerning oneself or others also constitutes academic fraud. Grade alteration consists of an act which dishonestly modifies a grade obtained for a class assignment, examination, or for the course itself.

## F. Abuse of Library Privileges and Shared Electronic Media

All attempts to deprive others of equal access to any library materials constitute a violation of academic integrity. This includes the sequestering of library materials for the use of an individual or group; a willful or repeated failure to respond to recall notices; and the removal or attempt to remove library materials from any University library without authorization. Defacing, theft, or destruction of books, articles or any other library materials that serve to deprive others of equal access to these materials also constitute a violation of academic integrity. Malicious actions that deprive others of equal access to shared electronic media used for academic purposes constitute a violation of the Honor Code. This includes efforts that result in the damage or sabotage of campus computer systems.

## G. Encouragement or Tolerance of Academic Dishonesty

The quality of campus and community life is dependent upon the commitment of each member of the University to a shared set of behavioral standards and values. Adhering to the Academic Honor Code is not limited to direct actions, but also includes any behavior that supports, encourages, or tolerates academic dishonesty.

## IV. Student Status with Respect to the Academic Honor Code

A. All University of Dayton students, except for Law students who are governed by The University of Dayton School of Law Honor Code, are subject to the Standards of Conduct and procedures of the Academic Honor Code
B. Normally, the maximum penalty for a single proven case of academic dishonesty is an F in the course. No provision can then be made for the student to receive a W. Under some circumstances, such as repeated offenses, theft, intimidation, or breaking and entering, additional penalties may be imposed by the University. These penalties may include dismissal from the major, dismissal from the school or college, removal from the University Honors Program, or dismissal from the University.
C. All honor code violations, as determined by the instructor after consultation with the student, require that the chair of the department or program director in which the incident occurred be notified of the violation by the instructor. If a student accepts the instructor's accusation and/or penalty, the case will be considered resolved and no further action shall be required. The instructor shall send an Academic Dishonesty Incident Report form to the dean(s) of the student's academic unit(s) - possible double major. If a student does not admit the violation or accept the proposed penalty, the student may contact the chair or program director in which the incident occurred and initiate an appeal process as outlined in Section V. If the appeal is decided in favor of the student, no report will be placed in the student's file. If during the appeal process the student is found responsible, the report will be placed in the dean(s)' offices of the student's academic unit(s) - possible double major. If the student transfers between academic units, all reports will be transferred to the new dean's office.
D. If a possible violation is reported after the grade for a course has been submitted, the case will be adjudicated only if the Office of the Provost determines that the alleged offense is of sufficient gravity to warrant consideration. Only matters that could reasonably result in sanctions reflected in a student's permanent record will ordinarily meet the "sufficient gravity" test in this context. The Office of the Provost shall decide on the process of adjudication
E. If a student with a possible violation withdraws, transfers, or is, for any reason, not currently enrolled at the University the University may maintain a continuing interest in, and complete the adjudication of the matter, if, in the judgment of the Office of the Provost, the matter is of sufficient gravity to warrant resolution. The Office of the Provost shall have the discretion to determine whether the adjudication will occur before or after the student's re-enrollment, and the process of adjudication.
F. A student may not graduate with an unresolved Academic Honor Code violation which, in the judgment of the Office of the Provost, is of sufficient gravity to warrant resolution. Certification for the degree will be withheld pending a final resolution of the Academic Honor Code matter. The Office of the Provost shall decide on the process of adjudication
G. If a violation is reported after a student has graduated, transferred, or otherwise terminated his or her enrollment at the University, the case will be adjudicated only if the Office of the Provost determines that the case is of sufficient gravity to warrant consideration. The Office of the Provost shall decide on the process of adjudication. In a case involving a student who has already received a degree, sanctions up to and including the revocation of a
degree or certificate are possible. The Office of the Provost has the final authority to revise and implement any sanctions.

## V. Appeal Procedure

A student who believes an accusation of academic honor code violation or penalty is not valid may appeal in the sequential manner listed below. If the student does not appeal the decision of the instructor, or accepts the accusation and penalty at any time during the appeal process, the Academic Dishonesty Incident Report form shall be sent to the student's dean(s) by the instructor.
A. If no resolution occurs in the private conversation with the instructor, the student may appeal to the department chair or program director in which the incident occurred. The student must submit a written account, including a detailed explanation of their actions, along with any circumstances concerning the incident. This appeal must be made within ten business days after meeting with the instructor. The chair may use reasonable means, including meeting with the instructor and student, to reach a determination on the accusation and/or penalty within thirty business days.
B. If no resolution occurs with the department chair or program director, the student has ten business days to file a written appeal to a review committee formed by the department chair or program director in which the incident occurred. The review committee shall be composed of at least two tenured faculty and one student. The review committee will first select a chair, and then meet with the student and instructor involved on separate occasions and gather any additional evidence or information related to this appeal. The student has the right to see and hear the evidence, to question any witnesses against the student, and to present evidence and witnesses on the student's behalf. Both the student and the instructor must cooperate with the review committee. The review committee shall make known its recommendations and the reasons for its recommendations in writing to the department chair or program director, the student, and the instructor within thirty business days.
C. If the student or faculty member disagrees with the review committee's decision, either may then make an appeal to the dean of the unit in which the incident occurred. The dean must make known his or her decision, and reason(s), in writing to the student, the instructor, chair or program director, and department review committee within thirty business days.
D. A final appeal may be made to the Provost within ten business days after the dean's decision. The Provost must make known his or her decision, and reason(s), in writing to the student, the faculty member, chair or program director, dean, and review committee within thirty business calendar days. The final authority rests with the Provost.

Academic Dishonesty Incident Report Form (catalog.udayton.edu/ generalinformation/academicinformation/undergraduate/ theacademichonorcode/Academic_Dishonesty_Incident_Report.pdf)

## Academic Standing

The student's academic standing is determined by the cumulative gradepoint 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.

## 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 levels 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 yet accrued 30 semester hours of credit is considered a firstyear 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.

In cases where unusual circumstances combine to cause a student to miss any class time for reasons beyond the student's control (viz., personal illness, death in the immediate family, religious holidays, University-sanctioned activity, emergency limitations on commuter travel in severe weather-related conditions), faculty members should give due diligence to reviewing the student's particular case

Let it be noted that to insure accuracy of records, every student must be present at class during the first week of each term.

## Transfer Policies

## Transfer of Credit Policy

All transfer coursework completed by current UD students for UD credit must be approved in
writing by the Dean's office prior to registration for the course. At a minimum, the approval process will include a review of the institution, course descriptions and course syllabus.
Additionally, a vita of the professor and/or a copy of the textbook used in the course may be
reviewed. Consideration for credit will only be given to transfer courses with a grade of C - or
better.
Courses taken in the U.S. must be completed at a regionally accredited institution. Courses taken
in a foreign country must be completed at an institution recognized by the foreign country's
minister/head of education. Official transcripts must be sent directly to UD from the university
and must contain an official seal of the university's office of academic affairs. Other
requirements may be necessary (i.e. School of Business courses need to be taken at an AACSB
accredited institution) given the specific course in question.
No credit will be granted when a student fails to receive prior written approval from the Dean's
office or fails to provide official transcripts sent to UD directly from the approved university.

## Internal Transfer Policy

Any undergraduate student having completed one academic semester in good standing at the University of Dayton may initiate a request for Internal Transfer. The student desiring to change his/her major can initiate this process by contacting their advisor and submitting a formal transfer application prior to registration.
To be considered for Internal Transfer the student must meet the following criteria:

- College of Arts \& Sciences

Cumulative GPA:
1.7 end of first term
1.7 end of second term
1.8 end of third term
1.9 end of fourth term
2.0 thereafter

- School of Business Administration

Students must first attend an initial internal transfer meeting with an Academic Advisor in the School of Business Administration. Stop in the Center for Academic Success inMirian Hall 108 to schedule this initial SBA internal transfer meeting. Minimum Requirements: Cumulative GPA of 2.7, successful completion of an appropriate UD Math course, such as Calculus class, a C+ or higher in MTH 116 or MTH 128, or a B- or higher in MTH 207. Math courses taken at another college or university will NOT be considered.

- School of Education and Allied Professions

Cumulative GPA of 2.5 or better, and for those seeking teacher licensure, proof must be submitted of satisfactory standardized testing scores.

- School of Engineering

Cumulative GPA:
1.7 end of first term
1.7 end of second term
1.8 end of third term
1.9 end of fourth term
2.0 thereafter

Units will review applications for transfer and make decisions in a timely fashion with communication to the student, the appropriate units, and the Registrar. Please note: there are times when the student's desired transfer would not be recommended. This decision will be left to the judgment of the dean or his/her designated representative.

More complete information regarding Internal Transfer to the College or schools may be obtained in the respective dean's office.

## Undergraduate Students in Graduate Courses

An undergraduate student may register for graduate courses only under the following conditions:

1. Graduate courses to count toward the undergraduate degree: a. Approval must be obtained from the director of the appropriate graduate program.
2. Graduate courses to count toward the graduate degree:
a. Approval must be obtained from the director of the appropriate graduate program.
b. Unless the student has been accepted into a combined baccalaureate/master's degree program, the student must be within 15 semester hours of completing the semester-hour requirements for graduation in the undergraduate program.
c. Credit obtained for the graduate courses may not be counted toward both the bachelor's degree and any future master's degree unless the student has been admitted to a combined Bachelors + Masters program.
d. The undergraduate student whose status is less than full-time or 3/4-time must pay the graduate tuition rates to register in graduate courses for graduate credit.

## Class Standing

First-Year student: 0-29.9 semester hours completed
Sophomore: 30-59.9 semester hours completed
Junior: 60-89.9 semester hours completed

Senior: 90 semester hours completed and over

## Dean's List

## Dean's List

At the conclusion of the Fall, Spring, and Summer terms, in both the college and the professional schools, any currently registered, degreeseeking undergraduate student completing a minimum of twelve semester hours with a grade point average of 3.50 or above is named to the Dean's List. For purposes of this list, the total hours completed during the multiple Summer sessions are treated as being a single term.

## Dean's Recognition List

At the conclusion of the Fall, Spring, and Summer terms, in both the college and the professional schools, any currently registered, degreeseeking undergraduate student completing no less than six semester hours and not more than eleven and one-half semester hours with a grade point average of 3.50 or above is named to the Dean's Recognition List. For purposes of this list, the total hours completed during the multiple Summer sessions are treated as being a single term.

The Dean's List and Dean's Recognition List can be viewed at: http:// www.udayton.edu/flyersfirst.

## Honors

The University Honors Program provides curricular offerings, programming, and benefits to undergraduates who achieve and maintain superior academic records. Students earn the designation "University Honors student" in one of two ways. Entering first-year students with outstanding academic credentials are accepted into the Honors Program upon admission to the University. Students may also enter the Honors Program after their first year with a minimum 3.5 grade-point average. All University Honors students are expected to maintain at least a 3.5 GPA.

Membership in the University Honors Program (UHP) requires continued progress towards one of the Honors Program diplomas. Honors students complete the requirements for an Honors diploma in one of two ways: by earning 15 Honors credits and completing a 6-credit Honors thesis project, or by earning 21 Honors credits without a thesis. To receive the Honors with Distinction diploma, Honors students earn 21 Honors credits and also complete the 6 -credit Honors thesis project.

Students are offered a selection of Honors courses each term, including special sections of General Education courses. In most instances firstyear University Honors students will be placed in the Freshman Writing Seminar for Honors Students (English 200H), a semester course that substitutes for a two-semester English requirement for non-Honors students. Incoming first-year students may also earn Honors credits through Honors-designated integrated learning living communities (ILLCs). A limited number of upper-class Honors courses are available each semester. In addition, students can receive up to nine honors credits by completing one of the following: the UHP's Chaminade Scholars Program, the Dayton Civic Scholars Program, the River Stewards Program, or the CORE Program. Honors students must earn a grade of $B$ or better in any Honors course for it to count towards the Honors diploma requirements. Specific ways of earning Honors credits can be found on the Honors Program website at www.udayton.edu/ honors. Students who meet the University Honors Program graduation requirements will earn an Honors Program diploma and key.
Numerous benefits are available to members of the University Honors Program, beginning with the special Honors orientation known as the Honors Students Welcome. The University Honors Program sponsors
speakers, cultural events, the Honors Art Exhibition and the Honors Students Symposium each year. All University Honors students are guaranteed a place in U.D. housing during their undergraduate career. Special Honors housing is available for a limited number of University Honors students through first-year integrated learning-living communities and, for upper-class students, the special interest housing process. University Honors students also benefit from early registration, graduatelevel library benefits, and the use of special Honors study rooms in the library and the UHP offices. In addition, the UHP provides special advising for students interested in pursuing prestigious fellowships (e.g., Fulbright, Truman, Rhodes) or applying to graduate school.

The University Honors Program provides research funding to those students engaged in thesis projects. Outstanding projects may be eligible for funding through the Dr. Patrick F. Palermo Honors Program Founders Fund. Sophomore Honors students may be nominated by faculty to apply for the Berry Summer Thesis Institute, a fully-funded summer program designed to promote student research, leadership and service. Students who complete the Thesis Institute are eligible to become Berry Thesis Fellows and receive additional scholarships their junior and senior years pending progress on their theses. Honors students are eligible to apply for the Chaminade Scholars Program, which awards additional scholarships to those first-year students chosen for the cohort. The Dayton Civic Scholars and River Stewards Programs also include additional upper-class scholarships. University Honors students completing at least 60 semester credit hours are eligible to apply to the Cordell W. Hull International Fellows Fund to support their international learning, leadership, and service projects. Grants may also be available for Honors students who present their academic research at professional conferences. Finally, a limited number of upper-class scholarship awards may be made to Honors students who demonstrate academic excellence and financial need.

## 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 grade point average of at least 3.0. The awards:

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

Accounting - Award of Merit in Recognition of Outstanding Achievementdonated by The Ohio Society of Certified Public Accountants, Dayton Chapter.
Accounting - Accounting Career Award to a Student Exhibiting Great Potential in the Accounting Profession-donated by the Institute of Management Accountants, Dayton Chapter.
Accounting - The Clark-Eley-Fioriti Award for Outstanding Service to the Department of Accounting-donated by the alumni and faculty of the Department of Accounting.
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 - International Learn, Lead, and Serve Award-donated in honor of Steven C. Buck, 2003.

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.

Athletics - The Ann E. Meyers Award of Excellence for Achievement in Academic and Athletic Effort in Women's Basketball and Volleyball.

Biology - The P.K. Bajpai Undergraduate Research Award to the Undergraduate Student who best Represents the Spirit of Undergraduate Research in Biology.
Biology - The John J. Comer Biomedical Undergraduate Research Award to the Undergraduate Student who best Demonstrated Research Excellence in Biomedical Science as a Biology Major.
Biology - The John J. Comer Ecological Undergraduate Research Award to the Undergraduate Student who best Demonstrated Research Excellence in Ecology as a Biology Major.
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.

Biology - Learn, Lead, and Serve Undergraduate Award of Excellence to the Biology Undergraduate Student who Completed an Outstanding Experiential Learning Project, which included both Leadership and Service.

Business Administration - The Dick Flaute Award for Exceptional Service, Recognizing Exemplary Service by a Graduating Student in a Flyer Enterprises Activity.

Business Administration - The Sam Gould Award for Leadership Excellence, Recognizing Outstanding Leadership by a Graduating Senior in a Flyer Enterprises Management Position.

Business Administration - Outstanding Peer Advisor Award.
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.

Campus Ministry - The Nancy Bramlage Award, Presented by Campus Ministry's Center for Social Concern, to Deserving Students or Student Groups that have most Effectively used Nonviolent Direct Action to Work for Change.

Campus Ministry - 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 Raymond L. Fitz, Sr., Memorial Award of Excellence to the Outstanding Sophomore in Chemical Engineering.

Chemical and Materials Engineering - The Edmund J. Rolinski Memorial Award of Excellence to the Outstanding Senior in Leadership and Service.

Chemical and Materials Engineering - The Robert G. Schenck Memorial Award of Excellence to the Outstanding Junior in Chemical Engineeringdonated by Stanley L. Lopata.

Chemistry - American Chemical Society Analytical Award.
Chemistry - American Chemical Society Award: Patterson College Chemistry Award.

Chemistry - American Institute of Chemists' Award.
Chemistry - CRC PRESS Freshman Chemistry Achievement Award to a Deserving First-Year Student Majoring in Chemistry.

Chemistry - The Brother George J. Geisler, S.M., Award of Excellence to the Outstanding Student in Chemistry-donated by Joseph Poelking, '32.

Chemistry - The Arlo D. Harris Assistance Fund to a Deserving Student Majoring in Chemistry.
Chemistry - The Bernard J. Katchman Memorial Scholarship/Carl I. Michaelis Scholarship Award 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 Carl I. Michaelis Scholarship Award to a Deserving Junior or Senior Majoring in Chemistry.

Chemistry - Polymer Education Committee Award for Outstanding Performance in Organic Chemistry.
Chemistry - The Philip Zaidain Memorial Award to a Deserving Student 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, 1902, Award of Excellence to the Outstanding Senior in Civil Engineering-sponsored by the University of Dayton Alumni Association since 1962.

Communication - The Joan M. Broskey Memorial Award for Outstanding Academic and Professional Achievements in Public Relations.

Communication - 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.

Communication - The Bette Rogge Morse Award to the Outstanding Senior Woman in Communication.

Communication - The Dr. Florence I. Wolff Achievement Award for Outstanding Contributions in Academic, Extracurricular, and Community Service Activities.

Communication-Broadcasting - The Omar Williams Award of Excellence to the 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. Awarded annually to the student who best demonstrates in his/her 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 Cocurricular 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 R. Vasey, S.M., Award of Excellence to the Outstanding Senior in Speech Arts-donated by Reverend Vincent R. Vasey, S.M.

Communication Management - The Ellen M. Murphy Award of Excellence to the Outstanding Senior in Communication Management.

Computer Science - The Addison-Wesley Senior Book Award for Excellence in Computer Science-donated by the Addison-Wesley Publishing Company.

Computer Science - Award for Outstanding Service to the Department of Computer Science.

Computer Science - Chair's Award for Excellence in Computer Science.
Computer Science - GKM Systems International Award for Innovative Programming.

Computer Science - The Lawrence A. Jehn Alumni Award for Excellence in the Senior Class.

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 Junior or Senior in Criminal Justice-donated by friends of "Beno" Keiter.

Early Childhood Education - The Kacie Hausfeld Award of Distinction to the Graduating ECE Senior Who Displays the Spirit of Kacie: A Passion
for Teaching; a Commitment to Service; a Vibrant and Encouraging Leader; and an Enthusiasm for Life.

Economics - The Dr. E. B. O'Leary Award of Excellence to the Outstanding Senior Majoring in Economics.

Electrical and Computer 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.
Electrical and Computer Engineering - The Anthony Horvath, '22, and Elmer Steger, '22, Award of Excellence to the Outstanding Senior in Electrical Engineering-donated by Anthony Horvath and Elmer Steger.
Electrical and Computer Engineering - The Mary C. Millette Endowment Award for the Outstanding Senior Electrical Engineering Student in Memory of Mary C. Millette.
Electrical and Computer Engineering - The Brother Louis H. Rose, S.M., '33, Award of Excellence to the Outstanding Junior in Electrical Engineering.
Electronic Engineering Technology - The Richard R. Hazen Award of Excellence for the Outstanding Graduate of the Electronic Engineering Technology Program-donated by alumni and friends of the department.
Elementary Education - The George A. Pflaum, '25, Award of Excellence to the Outstanding Students in Early Childhood and Middle Childhood Education-donated by George A. Pflaum, Jr.

Engineering/Humanities - The James L. Heft, S.M., Award of Excellence to the Graduating Senior who Demonstrates a High Degree of Integration of these Different Fields of Knowledge: Humanities and Engineeringdonated by Dr. Rocco M. Donatelli.
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 Patricia B. Labadie Award for Excellence in Composition.
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 Education - The Dr. Harry E. Hand Memorial Award of Excellence-donated by the faculty of the Department of English and the Department of Teacher Education.

Entrepreneurship - Award of Excellence to the Graduating Senior Majoring in Entrepreneurship who best Embodies Outstanding Academic Achievement-sponsored by Fifth Third Bank.
Entrepreneurship - Entrepreneural Leadership Award to the Graduating Senior Majoring in Entrepreneurship who Exhibits the Greatest Potential for Leadership as an Entrepreneur-sponsored by Robert F. Chelle, Crotty Center Founding Director.
Environmental Biology - Environmental Biology Award of Excellence to the Outstanding Environmental Biology Major who Excels in all Areas of Academic Scholarship and Overall Service.
Environmental Biology - Environmental Biology Internship Achievement Award of Excellence to the Environmental Biology Major who has Demonstrated Significant Achievement while Pursuing Practical Experience through the Internship Program.
Finance - Award of Excellence to the Outstanding Senior Majoring in Finance.

Finance - Davis Center for Portfolio Management Excellence in Leadership Award to the Outstanding Senior on the Center for Portfolio Management Team.

Finance - Flyer Investment Excellence in Leadership Award to the Outstanding Student on the Flyer Investment Portfolio Management Team.
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.

General Excellence - The Mary M. Shay Award of Excellence in both Academic and Extracurricular Activities (Seniors only)-donated by the Poelking Family.

Geology - The George H. Springer Scholarship to the Outstanding Senior in the Geology Department-donated by alumni of the department.
Health 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 and Sport Science - The James M. Landis Memorial Award of Excellence for the Outstanding Health and Sport Science Senior in Science Core Courses.

Health and Sport Science - The James B. LaVanche Award of Excellence to the Outstanding Scholar-Athlete Graduating in the Department of Health and Sport Science-donated by the faculty and alumni of the department.
Health and Sport Science - The John L. Macbeth Memorial Award of Excellence to the Outstanding Student in Health and Sport Sciencedonated by Mrs. John L. Macbeth.
Health and Sport Science - The Reverend George J. Rennaker, S.M., Award of Excellence for Outstanding Achievement in the School of Education and Allied Professions.
Health and Sport Science - The Elizabeth L. Schroeder Award of Excellence to the Outstanding Senior in the Food and Nutrition Program for Academic, Departmental, and Professional Performance.
History - The Caroline Beauregard Award of Excellence to the 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 Dr. George Ruppel, S.M., Award of Excellence in Historical Research.
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.

Humanities - Award of Excellence-Alumni Chair in Humanities Award for Students Writing in the Humanities Base Essay Contest.
Humanities - The Rocco M. Donatelli Award to the Humanities Senior with the Strongest Quantitative and Qualitative Record in Elective Science Courses.
Human Rights - Award of Excellence to Outstanding Senior.
Human Rights - Award of Excellence to Outstanding Junior.

Industrial Engineering Technology - The James L. McGraw Award to the Outstanding Graduate of the Industrial Engineering Technology Programdonated by the Dayton Chapter of the Institute of Industrial Engineers.

Industrial Engineering Technology - The Raymond B. Puckett Memorial Award to the Outstanding Junior in Industrial Engineering Technology.

International Business - Award of Excellence to the Graduating Senior Majoring in International Business who has best Combined Academic Achievement with Service to the University and Community.

International Studies - The Dr. Margaret P. Karns Award for Academic Excellence and Service in Global and Local Issues.

International Studies - Outstanding Senior Award for International Studies.

International Studies - International Studies Peer Mentorship Award.
Languages - The Brother John R. Perz, S.M., Award of Excellence to the Outstanding Senior in Modern Languages-donated by the Joseph Poelking, Sr. family.

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

Languages-French - The Professor Enrique Romaguera Award of Excellence to the Outstanding Senior in Spoken French-donated in honor of his retirement in May 2005.

Languages-German - The Dr. Elke Hatch Award of Excellence to the Ouststanding Senior German Major.

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

Leadership - Alumni Award in Leadership to the Graduating Senior Majoring in Leadership who best Embodies the Principles of Learn, Lead, and Serve-sponsored by Charles Huston Brown, '20, and Maurice F. Krug, '55.

Leadership - Leadership Award of Excellence to the Graduating Senior Majoring in Leadership who best Embodies Outstanding Academic Achievement-sponsored by the Reynolds and Reynolds Company and the Standard Register Company.

Leadership - Wall Street Journal Award for General Management to the Graduating Senior in Leadership and/or Entrepreneurship considered to have the Greatest Potential for General Management Responsibilitiessponsored by Dow Jones and Company, Inc.

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

Management and Marketing - Management/Marketing Department Award for Perseverance to the Graduating Senior Majoring in Entrepreneurship, Leadership, or Marketing who has Displayed the most Initiative and Perseverance in Pursuing an Undergraduate Education-sponsored by the faculty of the Management and Marketing Department.

Management Information Systems - Management Information Systems Design Project Award to the Team Producing the Best Senior Year MIS Project.

Management Information Systems - Management Information Systems Award to a Graduating Senior in MIS for Outstanding Contributions to the MIS Program.

Management Information Systems - Management Information Systems Scholarship Award to a Graduating Senior in MIS for Outstanding Academic Achievement.

Manufacturing Engineering Technology - Dayton Chapter, Society of Manufacturing Engineers Award of Excellence for Manufacturing Engineering Technology Achievement.

Manufacturing Engineering Technology - Dayton Chapter, Society of Manufacturing Engineers Award of Excellence to the Outstanding Graduating Senior in Manufacturing Engineering Technology

Marketing - Marketing Award of Excellence to the Graduating Senior Majoring in Marketing who best Embodies Outstanding Academic Achievement

Marketing - Marketing Career Award to the Graduating Senior Majoring in Marketing who Exhibits the Greatest Potential in Marketing.

Marketing - Marketing Service Award to the Graduating Senior Majoring in Marketing who best Embodies the Principles of Learn, Lead, and Serve.

Mathematics - Award of Excellence in Support of Mathematics.
Mathematics - Service Award.
Mathematics - Sophomore Award for Excellence in Mathematics
Mathematics Education - The Brother Joseph W. Stander, S.M., Award of Excellence to a Graduating Senior in the Teacher Licensure Program with a Principal Teaching Field in Mathematics.

Mechanical and Aerospace Engineering - Class of 1902 Award of Excellence for Outstanding Mechanical Engineering Achievementdonated by Michael J. Gibbons, 1902, in memory of Warner H. Kiefaber, 1905.

Mechanical and Aerospace Engineering - The Professor Henry Chuang Award for Excellence in Energy Conservation and Waste Management.

Mechanical and Aerospace Engineering - The Bernard F. Hollenkamp, '39, Memorial Award of Excellence to the Outstanding Senior in Mechanical Engineering-donated by Louise A. and Mrs. Lucille Hollenkamp.

Mechanical and Aerospace Engineering - The Martin C. Kuntz, 1912, 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 - 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.

Military Science - Department of the Army Award. The Superior Cadet Award, provided by the Department of the Army, to the Outstanding Cadet of each academic year.

Military Science - The Brian J. Bentz Memorial Scholarship Award to the Outstanding Junior ROTC Cadet who Exemplifies the Dedication and

Commitment for Further Study in Military Science-donated by his family and friends.

Military Science - The Lieutenant Robert M. Wallace, '65, Memorial Award of Excellence in ROTC-donated by his family and friends.

Music - Department of Music Senior Award for the Outstanding Collaborative Pianist.

Music - Department of Music Senior Award for Outstanding Contribution to the University Bands.

Music - Department of Music Senior Award for Outstanding Contribution to the University Orchestra.

Music - Department of Music Senior Award for Outstanding Contribution to the University Vocal Ensembles.

Music - The Brother Todd Ridder, S.M., Award of Excellence to the Outstanding Senior Majoring in Music.

Music - NAfME Professional Achievement Award.
Music - The Brother Joseph J. Mervar, S.M., Award of Excellence to the Outstanding Student Majoring in Music.

Music - Phi Mu Alpha College Honor Award for Musicianship, Scholarship, and General Contributions to the College Charpter.

Music - Phi Mu Alpha Professional Music Fraternity Scholastic Award to the Chapter's Graduating Senior who has Attained the Highest Scholastic Rating.

Music - Sigma Alpha Iota College Honor Award for Musicianship, Scholarship, and General Contributions to the College Chapter.
Music - Sigma Alpha lota Professional Music Fraternity Scholastic Award to the Chapter's Graduating Senior who has Attained the Highest Scholastic Rating.

Music - University Band Spirit Award.
Operations and Supply Management - Operations and Supply Management Outstanding Scholarship Award to a Graduating Senior in OPS for Academic Excellence.

Operations and Supply Management - Operations and Supply Management Outstanding OM Senior Project Award to the Team Producing the Best Senior Year OPS Project.

Operations and Supply Management - Operations and Supply Management Professional Service Award to a Graduating Senior in OPS for Outstanding Contributions to the OPS Program.

Philosophy - The Rev. Charles Polichek First and Second Awards of Excellence to Outstanding Seniors in Philosophy.

Philosophy - The Richard R. Baker Award for Excellence in Philosophy to the Graduating Student who has Earned Distinction in the Study of Philosophy through Commitment to Philosophical Inquiry and Assisting other Undergradute Students in their Pursuit of Philosophical Studies.

Philosophy - The Reverend Charles C. Bloemer, S.M., Award of Excellence to the Outstanding Junior Majoring in Philosophy-donated by a friend.

Philosophy - The Raymond M. Herbenick Award of Excellence in Interdisciplinary Integration to a Student Completing the CORE Programdonated by the Department of Philosophy faculty.

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 - Sigma Pi Sigma Award of Merit to a Senior in Recognition of Outstanding Academic Achievement and Involvement in Physicssponsored 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 - Miami Valley Academy of Family Physicians Award to the Graduating Senior whose Activities Exemplify the Philosophy of Family Medicine.

Premedicine - The Brother Francis John Molz Memorial Award to the Outstanding Senior in Premedicine. 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 Society Award to the Outstanding Senior in a Premedical Curriculum.

Premedicine - The Joseph E. Scherger, MD, MPH Leadership in Medicine Award to a Graduating Premedical Student who has Demonstrated Leadership toward Improving the Health of the Public through better Health Care.

Psychology - The Charles E. Kimble Research Award to the Graduating Senior who best Demonstrated Research Excellence in Psychology.

Psychology - The Kenneth J. Kuntz Award for Outstanding Servicedonated by the Department of Psychology faculty.

Psychology - The Reverend Raymond A. Roesch, S.M., Award of Excellence to the Outstanding Student in Psychology-donated by Reverend Raymond A. Roesch, S.M., '36.

Rector - The Maureen E. O'Rourke Marianist Student Award to the Graduating Senior who Exemplifies the Marianist Charism on Campus.

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 Reverend John Dickson, S.M., '36.

Religious Studies - The Monsignor J. Dean McFarland Award of Excellence to the Outstanding Junior in Religious Studies.

Secondary Education - The Brother Louis J. Faerber, S.M., Award of Excellence to the Outstanding Student in Adolescence to Young Adult 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.

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 and Sisterhood-donated by Dr. Edward A. Huth.

Sociology - The Reverend Andrew L. Seebold Award of Excellence to the Outstanding Senior in Sociology.

Teacher Education - The William A. Beitzel Award to the Outstanding Student in Intervention Specialist Education-donated by Dean Emeritus Ellis A. Joseph.

Teacher Education - The Raymond and Beulah Horn Award of Excellence to the Outstanding Student in the area of Intervention Specialist Education-donated by Dean Emeritus Ellis A. Joseph.

Teacher Education - The Daniel L. Leary Award for the Outstanding Research and Development Activity by a Student Seeking Teacher Licensure in the School of Education-donated by Dean Emeritus Ellis A. Joseph.

Teacher Education - The Frank and Lois New Award for Outstanding Achievement to a Graduating Senior in the Teacher Education Program with a Principal Teaching Field in Intervention Specialist Education.

Teacher Education - The Reverend George J. Renneker, S.M., Award of Excellence for Outstanding Achievement in Teacher Education.

Teacher Education - The Dr. Mary R. Sudzina Award for Demonstrated Excellence in Case Study Analysis in Adolescence to Young Adult Education.

Theatre - The Dr. "G." Award for Outstanding Commitment to Mainstage Theatre Recognizing a Graduating Senior who has Demonstrated a Willingness to Involve Himself/Herself in the Wide Spectrum of Theatrical Productions on the Boll Theatre Mainstage.

University Advancement - Award of Excellence for Contribution of Service to the Community.

University Honors Program - The Patrick F. Palermo Founders Fund Fellowship Award.

Visual Arts-Fine Arts - The Mary Ann Dunsky Award to the Outstanding Senior in Studio Art.

Visual Arts-Fine Arts - The Bela Horvath Award for Excellence in Representational Art.

Women's Studies - The Joyce Durham Award for the Best Student Essay on the Subject of Women or Gender.
Women's Studies - The Susan R. Hermes Award for Excellence in Women's Studies-donated by Drs. Jane S. Zembaty and Patricia A. Johnson.

## Commencement/Graduation

Commencement at the University of Dayton is formal recognition of students who are graduating from the University.
Consequently, University policy limits participation in commencement to students who have completed all the
requirements for their degree. However, undergraduate students who are short not more than seven credit hours prior to the May commencement may, with the approval of their dean, participate in the May graduation ceremony.
Such students must be registered for sufficient hours to complete degree requirements during the subsequent
summer terms at UD, or have attained approval to fulfill their remaining requirements at another institution, and
must provide official documentation of work completed no later than the official date for submission of grades at
the conclusion of UD's second summer session. Any exceptions to this policy are the decision of the dean of the student's academic unit. After all degree requirements are met, the degree will be conferred on the next conferral
date as noted on the official university academic calendar.
If the student is declaring candidacy for Graduation, a candidacy application must be completed either online (https:/ /porches.udayton.edu) or via hard copy and turned into the Flyers First Office, located on the fourth floor of St.
Mary's Hall. If a student is receiving two degrees, two separate candidacy applications, one for each degree, must be
completed. For further information visit theFlyers First website at: http:// www.udayton.edu/flyersfirst.

After the summer of 2002, students completing their degree requirements during the summer term will receive
a diploma and their academic transcript will denote an August graduation date, but they will have to wait until
December to participate in a graduation ceremony.

## 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 provided that no outstanding financial obligation to the University exists. All transcripts so requested require payment in advance. A complimentary transcript certificate will be given to each graduate when the official diploma is issued. For more information please visit: http://www.udayton.edu/ flyersfirst.

## Libraries and Research Services


#### Abstract

The University Libraries are comprised of Roesch Library, the Marian Library, the University Archives and Special Collections, and the International Marian Research Institute. Roesch Library houses books, journals, videos, DVDs, CDs, government documents, and microforms for both graduate and undergraduate students. Roesch Library is open 114 hours a week throughout much of the academic year and 24 hours per day during finals. Reference assistance is provided in a variety of forms including in person, email, IM, telephone, and private consultations. Roesch Library subscribes to over 280 databases on a variety of subjects and provides access to more than 69,000 journals in print and electronic formats. The Libraries also provide comfortable study areas, photocopiers, and individual and group study rooms. Roesch Library has 20 computer workstations located on the first floor and 37 computer workstations located on the second floor. All workstations provide access to the campus network, OhioLINK resources, and the Internet. These computers run Microsoft Office applications between SPSS and audio and video editing software and are available the entire time the library is open. Group Project Space, also located on the second floor, has ten workstations equipped with double monitors that allow for group collaboration. All floors have data ports and wireless network access that allow students to access campus and information networks through notebook computers. The Libraries are members of OhioLINK, a cooperative venture of university and college libraries and the Ohio Board of Regents. OhioLINK partners have created a common information network providing rapid access to and delivery of over 49 million items available at college and university libraries across the state. All of the libraries affiliated with OhioLINK provide on-site borrowing privileges to students and faculty associated with the University. Access to the Libraries' Web page, databases, and online catalog is available at http:// www.udayton.edu/libraries/.


The Marian Library (seventh floor of the Roesch Library) is recognized as the world's largest collection of published materials on the Virgin Mary. Its comprehensive collection embraces the works treating the Virgin Mary as found in Scripture, tradition, doctrine, history, art, popular culture, spirituality, and devotion. The multi-language collection includes over 95,000 books ( 6,000 printed before 1800), 200 periodicals, a clipping file of over 60,000 items, a Marian stamp collection, a Christmas creche collection, statues, medals, postcards, and works of art. Publications include Marian Studies (papers given at the annual meeting of the Mariological Society of America), Marian Library Studies (original research on Marian topics), and the twice-yearly Marian Library Newsletter. United with the Marian Library is the International Marian Research Institute (IMRI), affiliated with the Pontifical Theological Faculty Marianum in Rome. . IMRI offers courses in Marian studies as well as pontifical academic degrees (Licentiate and doctorate) in theology with specialization in Mariology. The Marian Library's collections can be accessed via the University Libraries' online catalog. Hours, an explanatory video, and information on current art exhibits can be found on the Mary Page at http://campus.udayton.edu/mary/.
The University of Dayton School of Law Library is located in Joseph E. Keller Hall. Its collection contains over 190,000 volumes and over 676,000 physical units of microforms. The open-stack arrangement of the Law Library permits easy access to all materials. For additional information seehttp://community.udayton.edu/law/library/.

The Brother Louis J. Faerber, S.M., Curriculum Materials Center (CMC) houses the SOEAP's specialized education collections and is located in Chaminade Hall. Its collection includes professional education books and journals, children and young adult literature, elementary and
secondary textbooks, standardized assessments, teaching aids (games \& manipulatives), DVD's, CD's, videocassettes, audiocassettes, LP records, charts, material kits, and other resources. The CMC also houses research projects, theses, and dissertations completed for the SOEAP's respective graduate programs. A copier, four networked computer workstations, the Ellison Press, Accu-Cut Machine, and an assortment of letter and shape dies are available for student use. Additional information is available atwww.udayton.edu/education/cmc/index.php.

## Interdisciplinary, Experimental and Special Areas

Please select a subsection using the menu to the right.

## Interdisciplinary, Experimental and Special AreasUndergraduate

Please select a subsection using the menu to the right.

## Adult Degree Advancement Program (ADAP)

Specifically designed for students 24 years of age and older who wish to attend college part-time, the University of Dayton Adult Degree Advancement Program (ADAP) allows you to complete your bachelor's degree at a pace that fits nicely with your lifestyle. Day and evening classes are available. Tuition for the ADAP students is very affordable, with cost per credit hour comparable to other adult degree programs.
ADAP students can select from one of six bachelor degree programs: Communication Management, Psychology, General Studies, Engineering Technology, ADA Didactic Program in Dietetics and Early Childhood Education. Information regarding Communication Management, Psychology, and General Studies can be obtained from Tracy Babal in the College of Arts and Sciences, 229-2604. Information regarding the Engineering Technology program can be obtained from Scott Segalewitz in the Department of Engineering Technology, 229-4216. Information regarding the School of Education and Allied Professions programs can be obtained from Shauna Adams in the Department of Teacher Education, 229-3372, or Patricia Dolan in the Department of Health and Sport Science, 229-4203.

## Affirmative Action Office

As an integral part of the Office of Legal Affairs, the Office of Compliance and Affirmative Action, in St. Mary's Hall, Room 400, provides services to all employees. The Affirmative Action Officer/Staff Attorney is the University's compliance officer for Affirmative Action/Equal Opportunity (AA/EEO), Title VII of the Civil Rights Act of 1964, Section 503 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.

## Air Force Reserve Officers Training Corps (AFROTC)

Air Force Reserve Officers Training Corps (AFROTC) is designed to create future leaders for the United States Air Force. The program is
based out of the host school at Wright State University but classes are conducted on the University of Dayton campus to alleviate any transportation concerns. A wide range of scholarships-to include full tuition-are available to qualified students. For more information contact the Air Force ROTC Detachment located in Millett Hall, room 118, at Wright State University or phone (937) 775-2730 or email, afrotc@wright.edu (catalog.udayton.edu/generalinformation/ interdisciplinary/undergraduate/airforcereserveofficerstrainingcorps/ afrotc@wright.edu).

## Center for International Programs

The Center for International Programs provides leadership, strategic planning, coordination, and administrative support for the internationalization of campus. In cooperation with other University departments and external organizations, the CIP operates programs and provides services which enhance intercultural education at the University of Dayton and prepares our community as distinctive global citizens ready to learn, lead, and serve in the world. The CIP is part of Academic Affairs and Learning Initiatives, under the Office of the Provost. Our areas include:

Education Abroad: University study abroad programs, including the University's Summer Study Abroad Programs, are managed through the Office of Education Abroad. Additional resources are available through partner institutions and affiliate programs for semester and year-long study. The CIP works closely with other areas on campus, such as the Center for Social Concern and academic departments, to assist all students going abroad. Faculty and staff may also find support in developing and promoting educational trips abroad

Exchanges and Partnerships: The University's international exchanges and partnerships are managed through the CIP. The University of Dayton's partnerships with international universities and institutions benefit our students, faculty and staff through education abroad programs, semester and year-long exchange programs, research collaborations, and more

International Student and Scholar Services: International Student and Scholar Services provides students and exchange visitors with immigration advising, workshops, orientation, academic and nonacademic advising, as well as social and extracurricular activities. Services include support of international faculty and research scholars and their dependents. The ISSS staff works collaboratively with other departments and organizations to advance the University's commitment to building a global community.

Intensive English Program: The University's English as a Second Language program develops students' English skills in preparation for an undergraduate or graduate program or the work place. Course offerings include oral communication, listening and note-taking, reading and vocabulary, writing and grammar, and special topics such as American culture, academic success, English for engineering, and English for business

Global Learning Living Community (GLLC): Upperclass undergraduate American and international students may select to live in an upperclass international community, located in an on-campus apartment building. Residents of the GLLC live together in four-person apartments and participate in activities that encourage intercultural dialogue and relationship building between students from a variety of cultural backgrounds.

Additionally, the Center for International Programs communicates with students, faculty, staff, and the surrounding community to promote international activities on campus and in the area.

## Cooperative Education (COP)

Cooperative education is an optional plan of full-time, on-campus study alternating with terms of full-time, off-campus paid work experience in industry, business, or government. Among the expected benefits to the student are on-the-job experience, career identification, financial assistance, and professional development. The work terms average seventeen weeks. Three full work terms are considered minimum for the program. Students are encouraged to begin their first co-op work experience after their third or fourth semester of academic study. Placement in a job is not guaranteed since it depends on the student's qualifications and on the availability of jobs.

## College of Arts and Sciences

## School of Business Administration

Cooperative Education is open to all students in the College of Arts and Sciences and the School of Business Administration. These students may start the application process by making an appointment with a career services professional. Further information on the cooperative education program for arts, science, and business students may be obtained by contacting Career Services, University of Dayton, Dayton, OH 45469-2711; phone (937) 229-2045; website http://careers.udayton.edu.

## School of Engineering

Qualifications for entering and remaining in cooperative education are (1) to be admitted to the University as a full-time undergraduate student with a minimum cumulative grade point average of 2.3; (2) to have a declared major in one of the academic departments in Engineering or Engineering Technology; (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.

Incoming sophomore, junior level, or transfer students interested in cooperative education should 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 registering through the Hire a Flyer network and having an initial interview with a member of the co-op staff. Those who start as firstyear 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, must spend one full-time study term on campus after transferring before becoming eligible for the first work term.

Further information on the engineering cooperative education program may be obtained by contacting Cooperative Education, School of Engineering, University of Dayton, Dayton, OH 45469-0227; phone (937) 229-2335; website http://engineering.udayton.edu/careers/coop.asp.

## Core Programs

The University of Dayton's Core Program offers an innovative, interdisciplinary curriculum program consisting of a sequence of courses that fulfill many of the University's General Education Requirements. These courses address a common theme, "Human Values in a Pluralistic Culture," and are carefully coordinated with one another so that students experience the integrated character of the liberal arts. Extra-curricular
speakers, arts events, and other activities related to course content are an important part of the program.
Core accepts approximately 150 students each year, representing all of the University's four undergraduate schools -- the College of Arts and Sciences, the School of Business Administration, the School of Education and Allied Professions, and the School of Engineering. All entering firstyear students are invited to apply; students in some majors in the College of Arts and Sciences are enrolled automatically. Core is designed to deepen the learning experience of any interested University of Dayton student. While Core is not an accelerated or honors program, students can earn credit toward the Honors Program with Core courses.

## Distance Learning Courses

The University of Dayton offers a select number of distance learning courses that can be taken as requirements for a major, a minor, or as electives. Unless otherwise stated, these are offered by University of Dayton academic departments that deliver undergraduate programs and are fully-accredited. The choices of distance learning courses available each semester varies, but is listed in the course composite for that semester. Selection of courses should be made by students in consultation with their academic advisor. Commonly students complete distance learning courses during the summer, to help accrue academic credit while living and working from home. Details about the courses should be sought from the academic department offering the course and the instructor of that course. In general most of these courses require Internet connectivity and utilize a number of online learning methods. Students should check what the requirements for each distance learning course are, how it relates to their major, and when and how the course begins. For additional information about UD's distance learning courses and programs, and how to be successful in the online learning environment, visit http://learn.udayton.edu.

## Education Abroad

The Education Abroad office, located in the Center for International Programs, guides students pursuing an educational experience outside the United States. Whether the student wishes to attend a program through the University of Dayton or through another institution, our education abroad staff assist with the application process and prepares students through a pre-departure orientation. The education abroad staff also offer a re-entry program to students returning to the U.S.
A variety of international education programs are available through the University of Dayton, including summer, semester and full-year study abroad programs; international service opportunities and work experiences; and intercultural programming.

## Summer Education Abroad - Interdisciplinary

The University Summer Study Abroad Program, offered through the Center for International Programs (CIP), is a unique study and travel experience. Students choose from eight to twelve sites during the months of May, June and July, and spend approximately three to five weeks at each program site. While abroad, students select courses from a variety of disciplines and use on-site resources to guide and enhance their learning experience. Typically, courses are taught by University of Dayton professors. By choosing to study at two sites, students can earn up to a full semester of credits. Past sites have included Athens, Dublin, Florence, London, Madrid, Paris, Rome and Shanghai.

## Summer Education Abroad - Disciplinary

Summer education abroad programs which are specific to one area of study are also offered on a regular basis. Summer 2012 options included programs for business, communication, and psychology.

Language majors or minors can develop their spoken and written foreign language skills through summer language immersion programs. Students can improve their foreign language skills while integrating personal experiences and discoveries with material discussed in class lectures. University of Dayton professors design the courses to incorporate contemporary use of the language and explore the culture, government, and history of the city and nation in which they are teaching.

## Semester/Academic-Year Education Abroad

The University of Dayton has developed partnerships and participates in exchange agreements with several overseas institutions. In addition to University of Dayton tuition and university fee, students are responsible for their room and board in the host country, international travel, and personal expenses. Most financial aid (including institutional scholarships and grants) applies to exchange programs. For the most current list of partners, visit www.udayton.edu/international/university_initiatives/ partners.php.

## Other Opportunities

University of Dayton students can study abroad in many countries through other U.S. colleges and universities, and study abroad organizations or overseas universities. In addition to tuition, students are responsible for room and board in the host country, international travel, and personal expenses. Aid for non-University of Dayton sponsored programs is limited to federal loans and grants. Through these programs, University of Dayton students can study in Argentina, Australia, Austria, China, Costa Rica, the Czech Republic, France, Hungary, Ireland, Italy, Mexico, Poland, Russia, South Africa, Spain, the United Kingdom, and many other countries.

## Service Abroad

The Center for Social Concern offers opportunities for students to combine service-learning with their education abroad experience. The International Summer Immersion programs introduce students to the country's way of life through job placements, interaction with host families and travel through the country. Past destinations have included India, Cameroon, and Guatemala. The Center for Social Concern also coordinates week-long international service programs during the University's winter break.

ETHOS offers various service opportunities in cities within Latin America, Africa, India, China, and Bangladesh, as well as domestic placements. Through ETHOS International Service Learning Placements, students participate in an 8 - to 16 -week service-learning internship. These internships involve working with NGOs or cottage industries doing engineering- and/or business-related work. The program is operated through the School of Engineering and open to both engineering and business majors. Students from other majors may participate by permission.

## Release Agreement and Travel Registration

All students participating in a university-sponsored international program must complete the Release and Agreement Form which releases the University from liability for claims including, but not limited to, injury, delay, and damage while abroad. As part of this agreement, the student agrees to abide by the University's standards of behavior while in the host country or countries. Students are also required to complete: the Health Information and Emergency Treatment Authorization Form which requests medical information; and the Behavioral Contract which outlines
the institution's expectations for behavior while abroad. Depending on the program, students may need to complete the Authorization Form in order to transfer academic credit earned as part of a study abroad program to the University of Dayton.

Additionally, all University of Dayton students participating in a universitysponsored international program are required to complete the online Travel Registry as part of their pre-departure requirements. The University-wide travel registry allows the University to remain in close contact with students, should they need assistance while abroad. In addition to the Travel Registry, all students participating in an individual exchange or non-University-sponsored program are required to register with the U.S. State Department.

## International SOS

The University of Dayton has contracted with International SOS (SOS) to provide worldwide medical, travel, and security assistance and evacuation services for all faculty, staff and students participating in university-related international travel. Services include up-to-date reports on safety and security, health issues, medical referrals, and vaccination requirements for individual countries. SOS offers our students travel, medical, and security advice and services and protects against a variety of difficulties that could arise while abroad; however, the SOS is NOT health insurance. The University of Dayton continues to require all students studying abroad to maintain health insurance coverage and to make certain that their policies cover them while abroad.

## High Risk Travel

The University will suspend all University-sponsored and organized instructional programs in countries or specific areas within countries for which the Department of State (DOS) has issued a Travel Warning or the Center for Disease Control (CDC) has issued a Travel Health Warning. If a warning is issued after the program is underway, the University's International Response Team (IRT) will review each situation on a case-by-case basis to determine the appropriate course of action. Refunds will be evaluated on a case-by-case basis and may depend on specific service-provider refund policies.

For individual travel by students who have University funding to pursue research, study or other University-related business in countries or specific areas within countries for which the DOS has issued a Travel Warning, or the CDC has issued a Travel Health Warning, the University will not provide funding for undergraduates. Also, the University will not provide support for faculty, staff, or graduate/professional students in a country where a mandatory evacuation order has been issued. The University will review on a case-by-case basis requests for waivers (see waiver requests below)

If a warning is issued after the program is underway, the University will review each situation on a case-by-case basis to determine the appropriate course of action. In general, the University will not require the traveler to reimburse already expended funds. However, the University reserves the right to terminate remaining funding. Should a traveler have concerns and decide to return home based on lower-level travel warnings, the University will not require the traveler to reimburse expenses already incurred.

Travel Waiver Requests: Requests for a travel waiver will be considered under limited circumstances. Waiver requests should be submitted to the Center for International Programs and include a description of the learning, service, and/or research objectives of the trip; the importance of the program to the educational, research, service, or professional development of the group or individual; the political and physical conditions at the proposed site that could impact health and safety; the
level of risk to the individual or group health and safety, including the traveler(s) knowledge of the area and conditions; a description of travel conditions within the country and an evacuation plan should it become necessary; and a signed High Risk Travel Waiver/Release for each traveler.

In addition to review of the warnings in question and the required waiver, the University's CIP will seek to obtain information regarding the actions of U.S. companies and organizations in country. The CIP will also consult with relevant country experts at International SOS or other relevant organizations in country to obtain additional information and advice on the situation. IRT members will have the opportunity to review the waiver application along with the additional information collected by the CIP and provide input. An IRT waiver review subcommittee will make the final decision regarding travel waivers. There is no appeal process for waivers that are denied.

## University of Dayton's Foreign Liability Insurance - Excluded Countries

The University's commercial insurance carrier's foreign liability policy excludes some countries from the "coverage territory". Check with the CIP for a complete and up-to-date list of excluded countries.

In order for the third party insurer to consider these countries as coverage exclusion exceptions, travelers must submit to the Center for International Programs the following at least one month in advance of travel: name(s) of traveler per trip to each country; defined secured evacuation plans; preferred travel/logistical arrangements; trip purpose to travel in these countries; signed high risk travel waiver/release. The CIP will send this information to the Chair of the University of Dayton Insurance Review Committee who will seek a response from the insurance provider. The decision will be communicated to the travelers.

## Fitz Center for Leadership in Community

The mission of the Fitz Center for Leadership in Community is to initiate and sustain partnerships with urban neighborhoods and larger communities for comprehensive community building and providing a context for connected learning and scholarship. The Fitz Center's vision is for the University of Dayton to become a national leader in the education of community builders - including students, faculty, staff, and alumni - through their participation in community building partnerships. Grounded in Catholic social teaching and Marianist ideals, the Fitz Center stimulates, coordinates, and facilitates learning and scholarship on leadership that builds community.

The Fitz Center builds on the University's and the Marianists' long experience of linking University resources to those of the Dayton community to solve regional problems, develop community leaders, and build neighborhoods. Through the Fitz Center, the University has built collaborative relationships with dozens of neighborhood, community, nonprofit, and government organizations and associations in efforts that have enriched the quality of life for thousands of citizens within Dayton and surrounding communities. These projects also have afforded meaningful learning opportunities to hundreds of students and dozens of faculty members annually.

The Fitz Center for Leadership in Community is built around four basic convictions that are shared by other university-based urban centers, independent urban research centers, and a number of national and regional foundations that promote constructive change in communities. These four basic convictions represent sound approaches to addressing
societal needs. We believe we must do four things differently than they were done in the past. We emphasize:

- a different way of learning which is based in practical reasoning and experiential (service) learning,
- a different way of seeing and understanding the urban community as a social ecology of children, families, neighborhoods, and systems,
- a different way of designing and implementing change using a model of comprehensive community building based on assets, not needs, and
- a different way of leading focused on adaptive leadership through constructive conversation.

These basic convictions guide our planning and program development. They also build on the extensive community experiences of the Fitz Center staff.

The Fitz Center for Leadership in Community has four primary functions. These functions are carried out by teams of students, faculty, and Fitz Center staff working in partnership with neighborhood and community leaders. They are:

- Initiate and sustain partnerships.
- Develop communities of learning, scholarship, and practice.
- Develop curricular and co-curricular innovations around leadership in community.
- Build community capacity for constructive deliberation and change.

The Fitz Center offers the following opportunities for learning about and experiencing leadership in community:

- Ferre Professor of Social Justice
- Community-based service-learning
- Leadership in Building Communities seminar
- Semester of Service
- Rivers Institute and River Stewards
- River Leadership Curriculum
- Dayton Civic Scholars
- Annual CityLinks Conference
- Dayton's Neighborhood School Centers
- Research and evaluation

The Fitz Center provides an interdisciplinary minor in family development within the College of Arts and Sciences. It also conducts research on a broad range of contemporary family and community issues and offers opportunities for the development of social science research skills through tutorials and participation in its ongoing research projects. The Center serves as a resource to local governmental, health, religious, educational, and social service agencies in developing solutions to the problems of families and the communities in which they live. The Fitz Center is committed to an integrated perspective on families and communities that draws on multiple disciplines. For more information, visit FDV in Academic Information.

Marianist Provincial Father William Ferre was recognized as a key spokesperson on the Catholic theory of social justice. In his honor, the Cincinnati Province of the Society of Mary supports the Ferre Professor of Social Justice in the Fitz Center. The Ferre Professor connects Catholic social teaching to the social sciences and other disciplines through the community-building mission of the Center.

The nature of the leadership challenges in the Dayton community requires adaptive learning and leadership across professional and
community sectors. The University of Dayton has established a reputation as an effective community partner, especially with urban Dayton on difficult community challenges. The University of Dayton adds value to the community with the Fitz Center that brokers and leads ongoing community building partnerships.

## General Studies (GEN)

The Bachelor of General Studies program permits students to pursue a non-traditional degree outside of any departmental major. Students can utilize the academic resources of the University to meet their individual, educational needs. For more information, visit http://catalog.udayton.edu/ undergraduate/collegeofartsandsciences/.

## Information Technology Facilities and Services

As one of the nation's premier institutions for technology-enhanced learning, the University of Dayton views information technology as central to both the living and learning experiences of students. UD has one of the most distinctive wired campuses in the nation: residence halls, as well as the 25 city blocks of UD owned houses comprising the Student Neighborhood, are equipped with high-speed data connections for each student. The University also supports more than 950 wireless access points to provide wireless coverage in most areas on campus, including academic buildings. In addition, students have access to an array of oncampus computer labs and computer-equipped classrooms.

To leverage this high-performance digital community, UD requires all incoming students to have a notebook computer that meets minimum hardware and software requirements set forth by each academic area. UD provides software such as Microsoft Office, SPSS, SAS, and Symantec AntiVirus to support learning, communication, and collaboration within and beyond the classroom.

The technology infrastructure at UD includes a gigabit network backbone with over 150 servers. In addition to maintaining this robust infrastructure, UD also supports learning and collaboration through such operations as the Help Desk, IT Training, and e-Learning. Students at the University of Dayton are encouraged to become highly proficient in using the tools of the information age as they prepare for their chosen careers.

## Institute for Pastoral Initiatives

The Institute for Pastoral Initiatives mobilizes the resources of the University of Dayton for partnerships with the church that create and implement innovative pastoral initiatives designed to meet the needs of the church and to articulate faith within the context of contemporary culture.

The Institute co-directs the unique Forum for Young Catechetical Leaders for students. The FORUM prepares students to be certified to become catechists in the Catholic Church. Students are introduced to outstanding catechetical leaders from around the country. Each semester students gather one Saturday a month for a full day of catechetical formation. This is the only such program in the USA in a Catholic University.

The Virtual Learning for Faith Formation -online courses- is coordinated by the Institute. Courses are offered for CEUs to support Catechist, Youth Ministry and Lay Ecclesial Leadership Formation.

The Institute's overall mission is to reflect the Catholic Marianist identity of the University through education, consultative services, networking,
applied pastoral research and multimedia catechetical productions and publications.

The Institute is currently focusing on research and teaching in the following areas:

1. The Forum for Young Catechetical Leaders
2. The Virtual Learning Community for Faith Formation (Internet)
3. Lay Ecclesial Leadership Formation
4. Religion, Spirituality and Film
5. Pastoral Communications and Ministry
6. New Paradigms for Adult Faith Formation
7. Advocacy for Persons with Disabilities within the Church

## Inst for Pastorl Int-Marianist Courses

## IPM 220. Fndrs/Marianist Fam. 1 Hour

MARIANIST STUDIES: FOUNDERS OF THE MARIANIST FAMILY -
Historical context and life of Father William Joseph Chaminade and other Marianist founders, especially Adele de Batz de Trenquelleon and Marie Therese de Lamourous.

IPM 221. Community. 1 Hour
COMMUNITY - Exploration of the key theological principles for understanding the meaning and formation of community within the Marianist spirit

## IPM 222. Spirituality. 1 Hour

MARIANIST STUDIES: SPIRITUALITY - Examination of the cultivation of a life of prayer informed by Marianist spiritual traditions, particularly the role of Mary and the commitment to permanent Marianist mission.

## IPM 223. Prayer. 1 Hour

MARIANIST STUDIES: PRAYER - An exploration of Father William Joseph Chaminade's methods and practices of prayer with insights for individual and group prayer.

## IPM 224. Social Justice. 1 Hour

MARIANIST STUDIES: SOCIAL JUSTICE - An exploration for integrating the insights of Father William Joseph Chaminade with the realities of modern life in envisioning a Marianist approach to social change for the twenty-first century.

IPM 225. Leadership. 1 Hour
MARIANIST STUDIES: LEADERSHIP - Exploration of how to integrate excellent leadership skills with goals and principles of the Marianist mission. Designed for those invited to hold leadership roles in the Marianist family.

IPM 226. Charism. 1 Hour
MARIANIST STUDIES: CHARISM - Exploration of the concept of charism focusing on the Marianist charism. Emphasis on the principles and practices of Marianist spirituality, the Marianist apostolate and its importance in forming Marianist life, and the real and potential impact of the Marianist mission on the wider Church and global community.

IPM 227. Education. 1 Hour
MARIANIST STUDIES: EDUCATION - Advanced course in Marianist education based on a basic understanding of the Characteristics of Marianist Education (CMEs). Emphasis on the manner in which Marianist education interweaves instruction with development of persons committed to Fr. Chaminade's mission to educate in the faith and to multiply Christians

## IPM 228. Marianist:Mary. 1 Hour

MARIANIST STUDIES: MARY - Survey of the roles Mary has which make her a model for believers to follow: believer, prophet, God-bearer/ mother, disciple, and companion. Special attention is given to the events of her life and the life of her son Jesus. Prerequitie(s): (IPM 220, IPM 221) or permission of instructor.

## Inst for Pastorl Int Courses

IPI 100. Surv of Cath Doctrne. 1 Hour
SURVEY OF CATHOLIC DOCTRINE - Comprehensive survey of Catholic doctrine which systematically follows the structure of the NiceneConstantinopolitan Creed. Prerequisite(s): Permission.

## IPI 121. Conscience. 1 Hour

CONSCIENCE - The steps, stages of development, and concepts concerning moral decision making as practiced within the context of the Roman Catholic faith. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 130. Intro to Scripture. 1 Hour

INTRODUCTION TO SCRIPTURE - An introductory overview of Christian scripture that is foundational for Old and New Testament online courses.

## IPI 131. Intr to Old Testamnt. 1 Hour

INTRODUCTION TO OLD TESTAMENT - Study of contemporary Old
Testament studies to learn how to read a biblical text in terms of its literary qualities and cultural influences on interpretations. Prerequisite(s) REL 210.

## IPI 132. Intr to New Testamnt. 1 Hour

INTRODUCTION TO NEW TESTAMENT - Introduction to the New Testament with a focus on the text's cultural contexts, literary composition, theological themes, and pastoral applications. Prerequisite(s): REL 211.

IPI 180. Faith \& Human Dev. 1 Hour
FAITH AND HUMAN DEVELOPMENT - Study of the development of Christian spirituality as part of human moral and psychological development. Prerequisite(s): Permission

## IPI 210. Introduction Prayer. 1 Hour

INTROUDUCTION TO PRAYER - Introduction to the nature and types of prayer understood and practiced in Scripture and the theological and liturgical tradition of the Roman Catholic Church. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 211. Pray with Children. 1 Hour

PRAY WITH CHILDREN - Survey of how children develop spiritually and the best practices for teaching children techniques in prayer and developing their spiritual life. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 212. Introduction Liturgy. 1 Hour

INTRODUCTION TO LITURGY - Introduction to the public and communal worship of the Church, its purpose and features, with special attention paid to the Mass and the Liturgy of the Hours. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 220. Catholic Social. 1 Hour

CATHOLIC SOCIAL TEACHING - Survey of the foundations and key themes of the social teaching of the Roman Catholic Church. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 225. Beginnings/Church. 1 Hour

ECCLESIOLOGY: THE BEGINNINGS OF THE CHURCH - Introduction to the theological study of the Church, including basic terms and concepts essential for understanding the Church's nature, mission, and historical evolution. Prerequisite(s): REL 212.

## IPI 226. The Pilgrim Church. 1 Hour

ECCLESIOLOGY: THE PILGRIM CHURCH - Exploration of how the Church maintains its continuity with Jesus and reshapes its own selfunderstanding, focusing on how the Church continually reconstitutes itself through its decisions in meeting the challenges of each age. Prerequisite(s): REL 240.

## IPI 227. Reframing Church. 1 Hour

ECCLESIOLOGY: REFRAMING CHURCH - Focus on the Second Vatican Council as a whole with specific consideration of the Council's teachings regarding liturgy, Scripture, hierarchy, laity, and the Church's relationship with the world. Prerequisite(s): REL 241.

## IPI 229. Intro to Islam. 1 Hour

INTRODUCTION TO ISLAM - The origin, development and spread of Islam is surveyed, followed by the study of the basics of this religion, including major practices and beliefs, the role of the Quran, perspectives on gender roles and how Islam views people of other faiths.Consideration will also be given to factors that give rise to either fundamentalist or democratic movements in the Muslim world. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 250. Church History I. 1 Hour

CHURCH HISTORY I - Survey of the origin and development of the Roman Catholic Church from the apostolic era through the Protestant and Catholic Reformation, with a focus on key events and personalities. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 251. Church History II. 1 Hour

CHURCH HISTORY II - Survey of the origin and development of the Roman Catholic Church from the Reformation era to the post-Vatican II era with a focus on key events and personalities. Prerequisite(s): (IPI 100,250 ) or permission of instructor.

## IPI 253. Hst of Cath Soc Actn. 1 Hour

HISTORY OF CATHOLIC SOCIAL ACTION - An introduction to official Catholic Church documents on social teaching and how Catholic activism around the world has influenced these teachings. Prerequisite(s): REL 262.

## IPI 254. US \& World Poverty. 1 Hour

U.S. AND WORLD POVERTY - Analysis of conditions, causes, and trends of poverty in the U.S. and abroad and responses through the theological lens of Catholic social teaching. Prerequisite(s): REL 260B, 263.

## IPI 260. Intro to Catechesis. 1 Hour

INTRODUCTION TO CATECHESIS - Exploration and analysis of the
purpose, methods, goals, tasks and essential content of catechesis.

## IPI 300. Christology. 1 Hour

CHRISTOLOGY - Survey of the origins and development of the foundational doctrines and theology concerning the identity, work, and mission of Jesus Christ. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 301. Mary. 1 Hour

MARY - Survey of the place the Virgin Mary occupies in the history of salvation and in the Church's life. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 302. Sacraments. 1 Hour

SACRAMENTS - Survey of the history, theology, pastoral and liturgical practice of the sacraments of the Roman Catholic Church. Prerequisite(s): IPI 100 or permission of instructor.

## IPI 400. Adv Catholic Social. 1 Hour

ADVANCED CATHOLIC SOCIAL TEACHING - Detailed discussion of the principles and recurring themes of Catholic Social Teaching according to papal social encyclicals and other documents. Prerequisite(s): (IPI 100, 220 ) or permission of instructor.

## IPI 435. Scripture \& Justice. 1 Hour

SCRIPTURE AND JUSTICE - Exploration of Old and New Testament foundations for Catholic social teaching and social action.

## IPI 450. Vocation Ministry. 1 Hour

VOCATION MINISTRY - Basic principles of ministry in the Church are introduced, according to guidelines outlined in the United States Conference of Catholic Bishops' National Certification Standards for Lay Ecclesial Ministers. Prerequisite(s): IPI 477 or permission of instructor.

## IPI 451. Comm and Community. 1 Hour

COMMUNICATION AND COMMUNITY - Explores principles and techniques for effective communication in varied kinds of parish and diocesan ministry. Prerequisite(s): (IPI 450, 477) or permission of instructor.

## IPI 452. Collaboration Comm. 1 Hour

COLLABORATION IN COMMUNITY - Study of techniques of effective collaboration with others in ministry and the identification and overcoming of obstacles to collaboration. Prerequisite(s): (IPI 450, IPI 451, IPI 477) or permission of instructor.

## IPI 453. Pastoral Culture. 1 Hour

PASTORAL CULTURE - Survey of the theories and concepts related to culture, the ethnic groups that make up the Catholic Church in the United States of America, and the skills needed to begin to work effectively in a multicultural parish community or other Catholic ministry setting. Prerequisite(s): (IPI 450, IPI 451, IPI 452, IPI 477) or permission of instructor.

## IPI 454. Leadership Ministry. 1 Hour

LEADERSHIP MINISTRY - Survey of the principles, strategies, and best practices of the exercise of leadership and management within the context of Church ministry. Prerequisite(s): (IPI 450, IPI 451, IPI 452, IPI 453, IPI 477) or permission of instructor.

## IPI 455. Admin Ministry. 1 Hour

ADMIN MINISTRY - Survey of the essential skills of management and supervision in Church ministry, including the spiritual dimension necessary for the effective exercise of those skills. Prerequisite(s): (IPI 450, IPI 451, IPI 452, IPI 453, IPI 454, IPI 477) or permission of instructor.

## IPI 456. Church Living System. 1 Hour

CHURCH LIVING SYSTEM - Integration of the principles, best practices, and skills needed for effective lay ministry leadership in the Church. Prerequisite(s): (IPI 450, IPI 451, IPI 452, IPI 453, IPI 454, IPI 455, IPI 477 ) or permission of instructor.

## IPI 460. Fdtns\&Vs Adt Lrn\&Fth. 1 Hour

FOUNDATIONS AND VISION FOR ADULT LEARNING AND FAITH FORMATION - Exploration and analysis of the principles, tasks, and goals of adult faith formation within the larger context of lifelong catechesis. Prerequisite(s): IPI 477 or permission of instructor.

## IPI 461. Parish as a Lrn Cmty. 1 Hour

PARISH AS A LEARNING COMMUNITY - Examination of the parish as a learning community in order to facilitate adult faith formation. Content includes the study of the dynamics and stages of community and group development, the characteristics of a learning community, and the development of strategies for the formation of the parish as a learning community. Prerequisite(s): IPI 460 or permission of instructor.

## IPI 462. Many Faces/Adt Lrnrs. 1 Hour

MANY FACES OF ADULT LEARNERS - Examination of the intellectual and spiritual capacities and experiences which constitute adult learning and faith formation. Prerequisite(s): IPI 461 or permission of instructor.

## IPI 463. Fac Ad Lrg\&Ft Fmtn. 1 Hour

FACILITATING ADULT LEARNING AND FAITH FORMATION -
Examination of the foundations, principles, and strategies for effective adult learning and facilitation of adult learning and faith formation for all stages of adulthood. Prerequisite(s): IPI 462 or permission of instructor.

## IPI 464. Ld SkI Ad Lrn\&Ft Fmt. 1 Hour

LEADERSHIP ROLES AND SKILLS FOR ADULT LEARNING AND FAITH FORMATION - Study and development of leadership and team development skills for adult learning and faith formation, including skills in collaboration, forming and empowering others for roles in adult learning and faith formation, learning how to facilitate effective meetings, learning effective methods of communication in groups, dealing with conflict, and developing ways for leaders to create a balanced approach to Christian life. Prerequisite(s): IPI 463 or permission of instructor.

## IPI 465. Sprt Ad Lrn\&Fth Fmtn. 1 Hour

SPIRITUALITY IN ADULT LEARNING AND FAITH FORMATION Exploration of the defining spirituality, and the principles, techniques, and goals required for an authentic spiritual life in the specific context of adult faith formation. Content also includes a survey of the different schools of spirituality within Catholic tradition. P rerequisite(s): IPI 464 or permission of instructor.

## IPI 466. Ds\&Imp Ad Lrn\&Fh Fmt. 1 Hour

DESIGNING AND IMPLEMENTING ADULT LEARNING AND FAITH FORMATION - Presentation and analysis of the principles, tasks, and goals of adult faith formation within the larger context of lifelong catechesis. Prerequisite(s): IPI 465 or permission of instructor.

## IPI 477. Vctn,Sprt\&Dis of Cat. 1 Hour

VOCATION, SPIRITUALITY, AND DISCIPLESHIP OF CATECHISTS Exploration and analysis of the vocation, spirituality, and discipleship of catechesis. Prerequisite(s): IPI 260 or equivalent.

## IPI 480. Vis for Cath Yth Min. 1 Hour

A VISION FOR CATHOLIC YOUTH MINISTRY - Introduction to the themes, principles, components, and goals to construct successful Catholic youth ministry programs according to guidelines outlined in the US Conference of Catholic Bishops pastoral plan, Renewing the Vision. Prerequisite(s): IPI 477 or permission of instructor.

## IPI 481. Relational Min w/Yth. 1 Hour

RELATIONAL MINISTRY WITH YOUTH - Exploration and analysis of the relationships youth have with their parents, youth ministers, and the parish community as a whole. Prerequisite(s): IPI 480 or permission of instructor.

## IPI 482. Prayr\&Wrshp w/AdInts. 1 Hour

PRAYER AND WORSHIP WITH ADOLESCENTS - Study of pedagogical practices to help young people make prayer a central and regular habit of their lives. Prerequisite(s): IPI 481 or permission of instructor.

## IPI 483. Adr Dvrs Iss/Yth Min. 1 Hour

PRINCIPLES FOR ADDRESSING DIVERSITY ISSUES IN YOUTH MINISTRY - Survey of best practices for developing effective youth ministry programs for young people from plural backgrounds and environments. Prerequisite(s): IPI 482 or permission of instructor.

## IPI 484. Planng Youth Ministy. 1 Hour

PLANNING YOUTH MINISTRY - Survey of the common factors and best practices that contribute to effective planning for youth ministry. Prerequisite(s): IPI 483 or permission of instructor.

## IPI 496. Parish \& Soc Action. 1 Hour

PARISH AND SOCIAL ACTION - Exploration of the roots of the parish's social mission in Scripture and Catholic social teachings. Prerequisite(s): REL 260B, 263.

## 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.

## Interdisciplinary-AS Courses

ASI 100. Acad Reading \& Dialogue. 3 Hours
ACADEMIC READING AND DIALOGUE - Academic Reading and Dialogue.

## ASI 110. Dev West Global Ctxt. 7 Hours

DEVELOPMENT OF WESTERN CULTURE IN A GLOBAL CONTEXT - An introductory two-course sequence integrating the study of English, history, philosophy and religious studies. The first course, ASI 110 (7 sem. hrs), offered in the fall semester, covers ancient civilizations through early modern civilization. (Completion of ASI 110 counts as completion of HST 103 and REL 103.).

## ASI 120. Dev West Global Ctxt. 8 Hours

DEVELOPMENT OF WESTERN CULTURE IN A GLOBAL CONTEXT - An introductory two-course sequence integrating the study of English, history, philosophy and religious studies. The second, course, ASI 120, (8 sem. hrs), offered in the spring semester, continues from the Enlightenment to the contemporary period. Restricted to first-year students in the Core Program. (Completion of ASI 120 counts as completion of second historical study course, PHL 103, and ENG 200H.) Prerequisite: ASI 110.

## ASI 150. Intr to the Univ Exp. 1 Hour

INTRODUCTION TO THE UNIVERSITY EXPERIENCE - Examination of the values that inform academic progress in the College; discussion of strategies for taking full advantage of academic opportunities and integrating formal and experiential learning.

## ASI 201. Personal Value Devip. 2 Hours

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.

## ASI 203. The Dayton Community. 3 Hours

THE DAYTON COMMUNITY - An interdisciplinary social science course describing and analyzing the nature of community issues and problems of the Dayton area; various approaches to addressing local concerns including public, private and citizens initiatives are explored.

## ASI 214. Drama Kinesics. 1 Hour

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 three semester hours. Registration may be retroactive. Prerequisite(s): Basic instruction in language; permission of instructor.

## ASI 228. Focus on Women. 1 Hour

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.

## ASI 305. Appalachian Studies. 3 Hours

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.

## ASI 320. Cities and Energy. 3 Hours

CITIES AND ENERGY - An interdisciplinary examination of the influence of energy on the urban environment since the Industrial Revolution, how this relationship has affected every aspect of city life from culture to infrastructure, and prospects for the future of this relationship.

## ASI 322. Cities and Suburbs. 3 Hours

CITIES AND SUBURBS: THE INFLUENCE OF PLACE (SOCIAL SCIENCE) - This interdisciplinary course examines the changing social, political, economic, cultural, ethical, and religious factors that shape life in cities and suburbs. It examines the factors that influence where people choose to live and the conditions that both unite and divide people across urban/suburban regions. Particular consideration is given to issues of social injustice, privilege and oppression, and moral responsibility. The social science domain is emphasized. This course is cross-listed with ASI 323 and ASI 324. Students taking ASI 322 may not receive credit for ASI 323 or ASI 324.

## ASI 323. Cities and Suburbs. 3 Hours

CITIES AND SUBURBS: THE INFLUENCE OF PLACE (PHILOSOPHY) - This interdisciplinary course examines the changing social, political, economic, cultural, ethical, and religious factors that shape life in cities and suburbs. It examines the factors that influence where people choose to live and the conditions that both unite and divide people across urban/suburban regions. Particular consideration is given to issues of social injustice, privilege and oppression, and moral responsibility. The philosophy domain is emphasized. This course is cross-listed with ASI 322 and ASI 324. Students taking ASI 323 may not receive credit for ASI 322 or ASI 324.

## ASI 324. Cities and Suburbs. 3 Hours

CITIES AND SUBURBS: THE INFLUENCE OF PLACE (PERLIGIOUS STUDIES) - This interdisciplinary course examines the changing social, political, economic, cultural, ethical, and religious factors that shape life in cities and suburbs. It examines the factors that influence where people choose to live and the conditions that both unite and divide people across urban/suburban regions. Particular consideration is given to issues of social injustice, privilege and oppression, and moral responsibility. The religious studies domain is emphasized. This course is cross-listed with ASI 322 and ASI 323. Students taking ASI 324 may not receive credit for ASI 322 or ASI 323.

## ASI 325. Cities \& Institutions. 3 Hours

CITIES AND INSTITUTIONS - Examination of important urban institutions, including, but not limited to, city planning, economic development, public safety, and education.

## ASI 341. Topics Arts Study. 1-3 Hours

SPECIAL TOPICS IN ARTS STUDY - Examination of an interdisciplinary topic in arts study. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 342. Topics Hst Study. 1-3 Hours

SPECIAL TOPICS IN HISTORICAL STUDY - Examination of an interdisciplinary topic in historical study. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 343. Topics Phl Study. 1-3 Hours

SPECIAL TOPICS IN PHILOSOPHY STUDY - Examination of an interdisciplinary topic in philosophy. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 344. Topics Rel Study. 1-3 Hours

TOPICS IN RELIGIOUS STUDIES - Examination of an interdisciplinary topic in religious studies. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 345. Topics Soc Sci Study. 1-3 Hours

SPECIAL TOPICS IN SOCIAL SCIENCE - Examination of an interdisciplinary topic in social science. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 346. Topics-Phys\&Life Sci. 1-3 Hours

SPECIAL TOPICS IN PHYSICAL AND LIFE SCIENCE - Examination of an interdisciplinary topic in physical and life sciences. Topics developed by faculty holding appointment in the Humanities Fellows Program or in an endowed chair. Specific topics may be used to meet thematic cluster general education requirements. May be repeated as topics change.

## ASI 347. Physics and Lit. 3 Hours

PHYSICS AND LITERATURE - Examination of works of literature that are based on principles of physics. Basic physics experiments will be performed to reinforce theoretical principles. Prerequisite(s): ENG 102 or equivalent; SCI 190 or other PHY course.

## ASI 350. Interdisp Film Study. 1 Hour

INTERDISCIPLINARY FILM STUDY A - capstone course in the film studies minor. Interdisciplinary study of film from religious, philosophical, literary, creative, technological and institutional perspectives.
Requirement for film studies minors. Prerequisite(s): Any combination of four courses (twelve semester hours): REL 372, PHL 324, ENG 331, ENG 332, CMM 345, other approved substitutes.

## ASI 357. Vocation \& the Arts. 3 Hours

VOCATION AND THE ARTS - Interdisciplinary arts study course that explores the impact of an artist's sense of vocation on art; use of autobiography for self-knowledge. Open to Chaminade Scholars. Prerequisite(s): REL 356 or permission of department chairperson.

## ASI 358. Chrstny,Ctzshp\&Socty. 3 Hours

CHRISTIANITY, CITIZENSHIP, AND SOCIETY - Interdisciplinary social science course, capstone for Chaminade Scholars. Presentation of historical-theological context of the church and its impact on society. Designed to help students think through their place and role in the society in which they live, work, and worship. Prerequisite(s): (ASI 357; REL 356) or permission of department chairperson.

## ASI 371. Prf Eth GlgI Cm-Bus. 3 Hours

PROFESSIONAL ETHICS IN A GLOBAL COMMUNITY- SCHOOL OF BUSINESS ADMINISTRATION - Virtues and responsibilities of professionals to self, clients, community, and world. Philosophical and religious approaches to ethical theory and decision-making. In-depth study of one of the following: business ethics (371), ethics and education (372), engineering ethics (373), philosophical (374) or religious (375) consideration of membership in a global community.

## ASI 372. Prf Eth GlgI Cm-Edu. 3 Hours

PROFESSIONAL ETHICS IN A GLOBAL COMMUNITY- EDUCATION Virtues and responsibilities of professionals to self, clients, community, and world. Philosophical and religious approaches to ethical theory and decision-making. In-depth study of one of the following: business ethics (371), ethics and education (372), engineering ethics (373), philosophical (374) or religious (375) consideration of membership in a global community.

## ASI 373. Prf Eth GlgI Cm-Egr. 3 Hours

PROFESSIONAL ETHICS IN A GLOBAL COMMUNITY- ENGINEERING - Virtues and responsibilities of professionals to self, clients, community, and world. Philosophical and religious approaches to ethical theory and decision-making. In-depth study of one of the following: business ethics (371), ethics and education (372), engineering ethics (373), philosophical (374) or religious (375) consideration of membership in a global community.

## ASI 374. Prf Eth Glgl Cm-Phl. 3 Hours

PROFESSIONAL ETHICS IN A GLOBAL COMMUNITY-
PHILOSOPHICAL - Virtues and responsibilities of professionals to self, clients, community, and world. Philosophical and religious approaches to ethical theory and decision-making. In-depth study of one of the following: business ethics (371), ethics and education (372), engineering ethics (373), philosophical (374) or religious (375) consideration of membership in a global community.

## ASI 375. Prf Eth GlgI Cm-Rel. 3 Hours

PROFESSIONAL ETHICS IN A GLOBAL COMMUNITY- RELIGIOUS -
Virtues and responsibilities of professionals to self, clients, community, and world. Philosophical and religious approaches to ethical theory and decision-making. In-depth study of one of the following: business ethics (371), ethics and education (372), engineering ethics (373), philosophical (374) or religious (375) consideration of membership in a global community.

## ASI 390. Soc Justice - Lat America. 3 Hours

SOCIAL JUSTICE IN LATIN AMERICA - This course adopts an interdisciplinary, highly experiential approach to the topic of social justice in Latin America by focusing on the social, theological, and ethical dimensions of justice. Taught on-site in Latin America. Prerequisite(s): SPN 201 or equivalent or permission of instructor.

## ASI 395. Science Intership. 1-3 Hours

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.

## ASI 397. Hum Rights Advocacy. 3 Hours

CAPSTONE SEMINAR ON HUMAN RIGHTS ADVOCACY - This required capstone seminar enables seniors in the HRS program to (1) integrate their formal academic studies and internship or research experiences in light of the Marianist spirit of Christian Humanism that guides the University of Dayton, (2) discuss emerging human rights challenges that they are likely to confront as human rights professionals, and (3) consider possibilities for leadership and service in human rights or humanitarian assistance as a vocation. Seminar participants will read and discuss a set of readings concerning the moral foundations of the human rights idea, emerging human rights challenges, and new advocacy strategies. Students will write and present final papers in which they reflect on the study of human rights at the University of Dayton and their internship or research experiences, and consider the possibilities of pursuing human rights service as a vocation. Prerequisite(s): POL 333, POL 334 or permission of instructor.

## ASI 398. Spe Top:Intrnl Devlp. 3 Hours

SPECIAL TOPICS IN INTERNATIONAL DEVELOPMENT - Study of political, philosophical, historical, and economic questions associated with developing countries. Topics determined by an interdisciplinary team.

## ASI 399. Interdisc Topics. 3 Hours

INTERDISCIPLINARY TOPICS - Study of special topics or themes of an interdisciplinary nature. Specific subtitles announced in composite. May be repeated as topics change.

## ASI 404. Study-Community Iss. 3 Hours

APPLIED STUDY IN COMMUNITY ISSUES - An advanced seminar that generates applied social science research related to contemporary social problems and public policy-making in the Dayton area. Students participate in research teams to assist government agencies in defining and analyzing critical social conditions (under spervision of faculty from various disciplines). Prerequisite(s): Permission of instructor.

## ASI 448. Sem-Family Development. 1 Hour

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(s): Twelve semester hours completed in the minor.

## Mini Courses Courses

UDI 102. Plan for Fin Success. 1 Hour
PLAN FOR FINANCIAL SUCCESS - Plan for Financial Success.

## UDI 110. Max Yr Intnl Ex:Intr. 1 Hour

MAXIMIZING YOUR INTERNATIONAL EXPERIENCE-EXPLORE Maximizing you international experience- Explore.

## UDI 145. Dev Lf Skls Std Ath. 1 Hour

LIFE SKILLS FOR FIRST-YEAR STUDENT ATHLETES - The purpose of this course is to introduce student athletes to various life skills needed to successfully manage the pressures of being a student athlete. It will also help them recognize the unique demands of college student-athletes and assist them in acquiring skills, which allow them to respond to those challenges.

UDI 146. Trans Coll Ath Grad. 1 Hour
TRANS COLLEGE ATHLETE GRAD - Trans College Athlete Grad.

UDI 152. Student Challenges. 0.5 Hours
STUDENT CHALLENGES - Student Challenges.

## UDI 164. Faith,Vctn\&Lrdshp I. 1 Hour

FAITH, VOCATION AND LEADERSHIP I - Students explore topics such as Christian identity, discipleship, and leadership (second semester: evangelization, service, and prayer) in an effort to understand Christian vocation and leadership.

UDI 165. Chaminade Scholars. 0.5 Hours
CHAMINADE SCHOLARS - Chaminade Scholars.
UDI 166. Choosing your Career. 1 Hour
CHOOSING YOUR CAREER - Choosing Your Career.
UDI 172. Stargazing 101. 1 Hour
STARGAZING - Stargazing.
UDI 175. Art \& Science Learn. 2 Hours
THE ART AND SCIENCE OF LEARNING - Students in this course will explore topics related to learning and the brain as well as a wide variety of strategies and techniques for improving their own learning.

## UDI 176. Hum Rghts Wk Comm. 1 Hour

HUMAN RIGHTS WEEK COMMITTEE - Human Rights Week Committee.

UDI 177. Intl Mens BB Eur Tr. 1 Hour
INTL MENS BB ERU TR - Intl Mens BB Euro Tr.
UDI 185. Junior Economic Proj. 1 Hour
JUNIOR ACHIEVEMENT ECONOMIC EDUCATION PROJECT - The Junior Achievement Program has designed introductory economic education packages to elementary classrooms. This course is a unique opportunity to do "service-learning" in the Dayton Public Schools and possibly charter schools in the vicinity. To be a JA tutor, no prior experience in economics is necessary; any college student is qualified. After training, each participant will be assigned to an area teacher (typically at the elementary or junior level) to make arrangements to present the material in 5-6 two-hour increments.

UDI 188. Technology Cert (GS3). 1 Hour
TECHNOLOGY CERT (GS3) - Technology Cert (GS3).
UDI 201. UD Interdiscp Exp II. 6 Hours
UD INTERDISCP EXP II UD - Interdiscp Exp II.
UDI 202. Plan for Fin Success. 1 Hour
PLAN FOR FINANCIAL SUCCESS - Plan for Financial Success.
UDI 214. Peace Leadership. 1 Hour
PEACE LEADERSHIP - Peace Leadership.
UDI 220. Maxie:Prepare. 1 Hour
MAXIE: PREPARE - Maxie: Prepare.
UDI 233. Sophomore Yr Expr. 1 Hour
SOPHOMORE YEAR EXPERIENCE - Sophomore Year Experience.
UDI 238. Liturgical Mus Prac. 1 Hour
LITURGICAL MUS PRAC - Liturgical Mus Prac.
UDI 241. Lit Peace Prize. 1 Hour
LIT PEACE PRIZE - Lit Peace Prize.

## UDI 247. Intro Chrch Musicns. 1 Hour

INTRO TO PRINCIPLES OF LITURGY FOR CHRISTIAN MUSICIANS

- This course provides the liturgical background and knowledge for thE new undergraduate music ministers.


## UDI 250. Explrng Evryday Tech. 1 Hour EXPLORING EVERDAY TECHNOLOGY - Exploring Everday Technology.

UDI 251. U Ld-Pear Acad Ldshp. 1 Hour
U LD-PEAR ACAD LDSHP U LD- - Pear Acad Ldshp.
UDI 262. Sustainability Energy. 1 Hour
SUSTAINABILITY ENERGY - Sustainability Energy.
UDI 265. Christian Leader Dev. 1.5 Hour
CHRISTIAN LEADER DEV - Christian Leader Dev.

## UDI 273. Intro-Urban Poverty. 3 Hours

INTRODUCTION TO URBAN POVERTY - Introduction to Urban Poverty.

## UDI 278. Health Careers Sem. 1 Hour

HEALTH CAREERS SEMINAR - Health Careers Seminar.

## UDI 283. MOS Certif-Excel. 1 Hour

MOS CERTIF-EXCEL MOS - Certif-Excel.

## UDI 284. MOS Certif-Word. 1 Hour

MOS CERTICATION-WORD MOS - Certification-Word.

## UDI 310. Maxie:On-Site. 0-1 Hours

MAXIE: ON-SITE - Maxie: On-Site.

## UDI 315. River Steward Exp I. 1 Hour

THE RIVER STEWARD EXPERIENCE I - Classroom experience for First Year River Stewards. This course focuses on leadership development in the pursuit of education, experience and action within the community. Open to first year River Stewards only.

## UDI 324. Liv SimplySustnably. 1 Hour

LIV SIMPLY SUSTNABLY - Liv Simply Sustnably.

## UDI 341. Sexual Diversity. 1 Hour

SEXUAL DIVERSITY - This course explores the lives and development of lesbian, gay, and bisexual people in contemporary American society with particular attention to individual, relationship, and community issues and their intersections. Students will be encouraged to examine their fears and prejudices as a way of discovering that sexual minority individuals are both unlike and just like everyone else. In this way all students- straight or gay - can learn to be more sensitive to differences in sexuality that exist in the world around them.

## UDI 350. Hst\&Eval Wrld Wines. 1 Hour

WINES OF THE WORLD - This course provides a study of world wines from several perspectives (history, organoleptics, geography, and economics) to develop in the student a deeper understanding and appreciation of wine both personally and socially.

## UDI 359. Employment Readiness. 1 Hour

EMPLOYMENT READINESS - Conducting your job search can be a daunting task, but breaking it down into manageable steps will help you be successful. You will acquire professionalism with ease and become more self assured in business interactions. You will also learn how to become a highly desirable employee by understanding career leadership skills most desired by employers, such as professionalism, problem solving, respecting workplace boundaries and diversity.

## UDI 361. Cross Cult Immrsn Prep. 1 Hour <br> CROSS CULTURAL IMMRSN PREP - Cross Cultural Immrsn Prep.

UDI 364. Christn Com\&Vocatn I. 1.5 Hour
VOCATION AND LEADERSHIP I - Students explore topics such as community, prayer, and Christian servant-leadership in an effort to understand and engage in communal faith development and vocational discernment.

UDI 365. Faith Vocatn\&Ldshp. 1.5 Hour
FAITH, VOCATION AND LEADERSHIP - Faith, Vocation and Leadership.

## UDI 371. Art Street Experience. 1 Hour

ART STREET EXPERIENCE - Art Street Experience.

## UDI 382. International Films. 1 Hour

INTERNATIONAL FILMS - An advanced look at the multitude of significant films that are made around the world. Each film screened will be examined from historical, religious, philosophical, cultural, literal and artistic standpoints with the assistance of panel discussions led by faculty members from the Humanities.

## UDI 385. Intrgrp Dialogue:REL. 2 Hours

INTERGROUP DIALOGUE: RELIGION - The Intergroup Dialogues course is carefully structured to explore social group identity, conflict, community and social justice. It involves an identity group defined by race and ethnicity. Each identity group is represented in the dialogue with two facilitators--one from each represented identity group--who encourage dialogue rather than debate. Facilitators and participants explore similarities and differences among and across groups and strive toward building a multicultural and democratic community.

## UDI 387. President's Diversity. 1 Hour

PRESIDENT'S DIVERSITY - President's Diversity.

## UDI 389. Ethnicity \& Race. 1.5 Hour

INTERGROUP DIALOGUE: ETHNICITY - The Intergroup Dialogues course is carefully structured to explore social group identity, conflict, community and social justice. It involves an identity group defined by race and ethnicity. Each identity group is represented in the dialogue with two facilitators - one from each represented identity group - who encourage dialogue rather than debate. Facilitators and participants explores similarities and difference among and across groups and strive toward building a multicultural and democratic community.

## UDI 390. Srvt Ldshp-REAL Dytn. 1 Hour

SERVANT LEADERSHIP SEMINAR FOR REAL DAYTON LEADERS

- In this service learning mini-course, (approximately 13) students are selected to be the REAL Dayton. Leaders will enhance, incorporate and reflect upon servant leadership skills to be effective leaders for this fall break program. Also during course meeting time, the leaders will work as a team to develop and plan the service projects, reflection activities and educational opportunities for the REAL Dayton program. At the end of the course leaders will reflect on the service projects completed during the REAL Dayton, the effectiveness of the program for UD students and their own experience as servant leaders.


## UDI 391. Civic Scholar Exp III. 1 Hour

CIVIC SCHOLAR EXPERIENCE III - Civic Scholar Exp III.
UDI 392. Dayton Civic Scholar. 1 Hour
DAYTON CIVIC SCHOLAR - Dayton Civic Scholar.
UDI 393. Comm Serv Internshp. 3 Hours
COMMUNITY SERVICE INTERNSHIP - This service-learning mini course, which is only open to students in the Semester of Service program combines community service with reflection. Requirements include 450 hours of direct community service, an observation/reflection journal, required readings, a short story written from their community service experiences and class discussions on related issues. Only open to (5) students in the Semester of Service program.

UDI 394. Civic Scholar Exp II. 1 Hour
CIVIC SCHOLAR EXPERIENCE III - This mini-course will prepare students to get the greatest possible benefit from their participation in the study abroad offering, Investing a Great City: Integrated London ISSAP 2006'.

## UDI 395. Civic Scholar Exp IV. 1 Hour

CIVIC SCHOLAR EXPERIENCE IV - Civic Scholar Experience IV.

## UDI 396. Intro-Med Termnlgy. 1 Hour

INTRODUCTION TO MEDICAL TERMINOLOGY - Introduction to Medical Terminology.

UDI 398. Civic Scholar Exp V. 1 Hour
CIVIC SCHOLAR EXPERIENCE V - Civic Scholar Experience V.
UDI 399. Civic Scholar Exp VI. 1 Hour
CIVIC SCHOLAR EXP VI - Civic Scholar Exp VI.
UDI 400. UD Interdiscp Exp II. 6 Hours
UD INTERDISCP EXP II UD - Interdiscp Exp II.

## UDI 410. Maxie:Integration. 1 Hour

MAXIE: INTEGRATION - Maxie: Integration.

## UDI 415. River Steward Exp II. 1 Hour

THE RIVER STEWARD EXPERIENCE II - Classroom experience for Second Year River Stewards. This course focuses on leadership development in the pursuit of education, experience and action within the community. Open to Second Year River Stewards only.

UDI 419. Forum-Yng Catech Lrn. 1 Hour
FORUM-YNG CATECH LRN - Forum- Yng Catech Lrn.

## UDI 421. Beyond UD. 1 Hour

UD POST-UNDERGRADUATE MINI COURSE - This mini-course is designed for graduating seniors who are considering participating in service after graduation. Students will explore opportunities to live out their vocation as well as come to a better understanding of spirituality, community living and discerning God's call.

UDI 499. Cont Ed. 1 Hour
CONT ED - Cont Ed.

## Interdisciplinary-Bus Courses

BAI 103L. Bus Computing Lab. 1 Hour
BUSINESS COMPUTING LABORATORY - Introduction to business software skills including spreadsheets, relational databases, and integration of computer applications. Overview of UD computer ethics policies.

BAI 150. Bus Educ Planning. 1 Hour
BUSINESS EDUCATIONAL PLANNING - Introduction to the School of Business Administration, the University, and educational planning.

## BAI 151. Bus Integratn Exp. 1 Hour

BUSINESS INTEGRATION EXPERIENCE - Integrated introduction to major business processes and decision making.

## BAI 294. Spec Topics in SBA. 3 Hours

SPECIAL TOPICS IN SBA - Special Topics in SBA.
BAI 400. Dean's Leadership Lab. 1 Hour
DEAN'S LEADERSHIP LABORATORY - Upper-class student participation in first-year student advising program. Prerequisite(s): Permission of dean's office.

## BAI 497. Lab Work Experience. 1-6 Hours

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. Prerequisite(s): Permission of dean.

## John W. Berry, Sr., Scholars Program

The Berry Scholars Program provides a three-year seminar-based curricular program for a small group of high achieving incoming Honors students. The final class of Berry Scholars was admitted in Fall, 2009 and the program ends with the graduation of the members of this class.

## Marian Library/International Marian Research Institute

The Marian Library/International Marian Research Institute is recognized as the largest and most comprehensive collection of materials on the Virgin Mary and as a leading center for Marian studies. Established in 1943 by the Marianists at the University of Dayton, the Marian Library comprises over 100,000 books and pamphlets which include theological, Scriptural and ecclesial documents and commentaries, biographies of Marian devotees, sermons, and Marian art. It also has collections
of postcards, religious images, postage stamps, medals, rosaries, Christmas créches, and recordings of Marian music.

A principal mission of the Marian Library is to promote research in Marian studies. The International Marian Research Institute was founded in 1975 (in affiliation with the Pontifical Theological Faculty Marianum in Rome) offering an academic program leading to the licentiate (S.T.L.) and the doctorate (S.T.D.) in theology; the master's degree in religious studies with a Marian concentration (in conjunction with the Department of Religious Studies of the University of Dayton); a certificate in Marian studies; and a guided program of studies. The academic program is organized in a three-year cycle and serves a diverse, international student population: laity (men and women), priests, and religious. While most students seek the degree in theology with specialization in mariology, others simply wish to satisfy personal interests in Marian studies.

The Marian Library provides exhibits of Marian art, reference services, circulation of books and videos, conferences and workshops. Four publications originate at the Marian Library: Marian Library Studies, a scholarly journal of original research; Marian Studies, the journal of the Mariological Society of America; the Marian Library Newsletter, which covers current books and topics of interests; and Art and Spirituality, a series of monographs promoting personal meditation through religious art.

The Marian Library maintains the Mary Page http://themarypage.org with extensive resources: information on art exhibits and classes, Marian ecclesial documents, FAQs, and seasonal meditations.

## Office of Educational Services

The Office of Educational Services provides assistance to Catholic schools, public school districts, and other educational providers 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 to link 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 and Allied Professions. For more information contact C. Daniel Raisch, Associate Dean, School of Education \& Allied Professions at DRaisch1@udayton.edu.

## Pre-Law

The Prelaw Program, designed to serve students from all areas of the University, provides undergraduates and alumni interested in law school with 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 to match 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 fourteen prelaw faculty advisors, provides students with suggestions for courses that help develop skills needed for legal education, with information about the law school admission process, with aid in taking the Law School Admission Test (LSAT) including simulated tests and prep workshops, and with help in completing law
school applications. In addition, the Program supports the Political Science prelaw internship, allowing students to gain valuable experience working in an attorney's office, sponsors both the undergraduate chapter of Phi Alpha Delta and a mock trial program in which students compete locally, regionally, and nationally, and offers personalized advising based on the individual student's talents, interests, and goals.

For further information concerning the Prelaw Program at the University of Dayton, students should contact the Prelaw Program in Alumni Hall, Room 124; phone (937) 229-4229.

## Research Institute (UDRI)

The University includes research as one of its stated purposes. In addition to faculty members in academic departments, a large staff of professional research scientists, engineers, and technicians conduct basic and applied research. These activities are externally funded and most are conducted in the laboratories of the University of Dayton Research Institute.

Several hundred students are employed in 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 work experience and 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. For more information, visit the Department of Military Science in Academic Information.

In coordination with Wright State University, the Department of Aerospace Studies offers the Air Force ROTC training program on campus and at Wright State University. Successful completion of the program provides the opportunity to become a commissioned officer in the United States Air Force. Refer to the Air Force Reserve Officers Training Corps (AFROTC), Chapter X.

## University Honors Program

The University Honors Program provides curricular offerings, programming, and benefits to undergraduates who achieve and maintain superior academic records. Students earn the designation "University Honors student" in one of two ways. Entering first-year students with outstanding academic credentials are accepted into the Honors Program upon admission to the University. Students may also enter the Honors Program after their first year with a minimum 3.5 grade-point average. All University Honors students are expected to maintain at least a 3.5 GPA.

Membership in the University Honors Program requires continued progress towards one of the Honors Program-designated diplomas. Honors students complete the requirements for an Honors diploma in one of two ways: by earning 15 Honors credits and completing a six-credit Honors thesis project, or by earning 21 Honors credits without a thesis. To receive the Honors with Distinction diploma, Honors students earn 21 Honors credits and also complete the six-credit Honors thesis project.

Students are offered a selection of Honors courses each term including special sections of General Education courses. In most instances first-year University Honors students will be placed in The Freshman Writing Seminar for Honors students (ENG 114), a semester course
that substitutes for a two-semester English requirement for non-Honors students. A limited number of upper class Honors courses are also available each semester. Students may also earn Honors credits through Honors-designated learning living communities, completion of the Chaminade Scholars program, or completion of the CORE program. Honors students must earn a grade of $B$ or better for any Honors courses to count towards the Honors diploma requirements. Specific ways of earning Honors credits can be found on the Honors Program website at honors.udayton.edu. Students who meet the University Honors Program graduation requirements will earn an Honors Program-designated diploma and key.

Numerous benefits are available to members of the University Honors Program. The University Honors Program sponsors speakers, cultural events, the Honors Art Exhibition and the Honors Students Symposium each year. All University Honors students are guaranteed a place in U.D. housing during their undergraduate career. Special Honors housing is available for a limited number of University Honors students, and upperclass University Honors students who choose to live together receive preferential treatment in the annual housing lottery. University Honors students benefit from early registration. They also receive graduate-level library benefits and enjoy the use of a special Honors study room in the library.

University Honors students undertaking Honors thesis projects may apply for thesis grants; outstanding projects may be eligible for funding through the Palermo Honors Program Founders Fund. Grants may also be available for Honors students who present their academic research at professional conferences. University Honors students completing at least sixty semester credit hours are eligible to apply to the Cordell W. Hull International Fellows Fund for University Honors students. Established in 1997-98, this fund awards grants to support international learning, leadership, and service projects. Finally, a limited number of upper-class awards may be made to Honors students who demonstrate academic excellence and financial need.

## Women's Center

The Women's Center at the University of Dayton (937-229-5390) is an educational space which serves to enhance the climate for women and men on campus. Located on the second floor of Alumni Hall, the Center, which includes a Resource Center, gallery space, and several reservable rooms, advances the full and active participation of women students, staff and faculty who learn and work at the University of Dayton, while promoting campus and community conversations on the role of women in society and the world. The Center accomplishes this mission by facilitating and coordinating programs and initiatives which: promote the physical and psychological well being of women through education, support services and referral; provide an ongoing assessment of the campus climate for women; promote the active and full participation of UD women through service, education, mentoring, networking, and advocacy; inculcate leadership skills; address gender-related topics; provide information to the campus community on women's issues; provide a place to build a community of scholarship to advance research on women and gender; create a welcoming and safe space for persons of different racial, social, gender, religious, and cultural backgrounds; call women and men of all faiths to explore and incorporate faith-based living into their everyday lives. Connected, distinctive, and community-building, the UD Women's Center strives to promote equality, understanding, and mutual respect and to foster a strong educational community in which women and men are supported, challenged, and prepared to learn, lead, and serve. For more information on the UD Women's Center, visit http:// womenscenter.udayton.edu.

## Directories

Please select a subsection using the menu to the right.

## Faculty

PAST PRESIDENT
Fitz, Raymond L., S.M. (1969), Engineering Management and Systems,
Ferree Professor in Social Justice - B.E.E., University of Dayton, 1964;
M.S., Polytechnic Institute of Brooklyn, 1967; Ph.D., 1970.

DEANS EMERITI
Garten, Rev. Edward D. (1985), Library - 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.
Gould, Sam (1985), Management and Marketing - B.S., Ohio State
University, 1965; M.B.A., University of Colorado, 1970; Ph.D., Michigan State University, 1975.
Joseph, Ellis A. (1961), Education - A.B., University of Notre Dame, 1955; M.A., 1956; Ph.D., 1962; L.H.D. (Honorary), College of Mt. St. Joseph, 1989.
Morman, Paul J. (1990), History - 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.

Sargent, Gordon A. (1985), Mechanical and Aerospace Engineering B.S., Imperial College of Science and Technology, University of London, 1960; Ph.D., 1964.
PROFESSORS EMERITI
Ahern, David W. (1977), Political Science - B.A., Southern Connecticut State College, 1970; M.A., University of Maryland, 1972; Ph.D., 1976.
Allik, Judith P. (1976), Psychology - B.A., Wellesley College, 1958; M.S., University of Pittsburgh, 1974; Ph.D., 1978.
Amsden, Robert T. (1978), Management Information Systems, Operations Management, and Decision Sciences - B.A., University of New Hampshire, 1960; M.S., Rutgers University, 1964; Ph.D., 1969.
Anderson, Gordon S. (1969), Teacher Education - 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 - A.B., Bloomfield College, 1961; B.D., Princeton Theological Seminary, 1964; Th.D., 1968.

Artz, Theodora S. (1974), Law Library - B.Ed., University of Toledo, 1962; M.A.L.S., 1974.
August, Eugene R. (1966), English - B.A., Rutgers University, 1958;
M.A., University of Connecticut, 1960; Ph.D., University of Pittsburgh, 1965.

Back, Stanley J. (1959), Mathematics - B.S., University of Dayton, 1957; M.S., Purdue University, 1959.

Berger, Robert N. (1964), Management and Marketing - B.S., University of Dayton, 1960; M.A., Ohio University, 1963; J.D., Chase School of Law, 1970.
Benedum, Richard P. (1973), Music - B.A., Concordia Teachers College, 1966; D.M.A., University of Oregon, 1972.
Biers, David W. (1976), Psychology, Associate Professor - B.A., Lafayette College, 1966; M.S., Northwestern University, 1968; Ph.D., 1970.

Blatt, Stephen J. (1971), Communication - B.A., Morehead State University, 1964; M.A., Ohio University, 1967; Ph.D., 1969.
Bogner, Fred K. (1969), Civil and Environmental Engineering and Engineering Mechanics - 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 - 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.
Buby, Rev. Bertrand A., S.M. (1967), Religious Studies - 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 - B.A., Miami University, 1966;
M.A.L.S., Western Michigan University, 1968; M.A., University of Dayton, 1975.
Burns, Rev. Norbert C., S.M. (1959), Religious Studies - B.A., University of Dayton, 1945; S.T.L., University of Fribourg, 1954; S.T.D., The Angelicum, 1955.
Butter, Eliot J. (1971), Psychology - B.A., Brooklyn College, 1965; M.A., 1969; Ph.D., University of Massachusetts, 1971.
Casey, Anthony L. (1969), Management Information Systems and
Decision Sciences - M.Ed., Wright State University, 1973; M.S., University of Dayton, 1972.
Chiodo, Andria J. (1968), Languages, Assistant Professor - B.A.,
University of Oregon, 1966; M.A., 1968.
Chuang, Henry N. (1965), Mechanical and Aerospace Engineering -
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1962; Ph.D., Carnegie Institute of Technology, 1966; Reg. Prof. Engr.
Clark, Willard C., Jr. (1963), Accounting - B.S., University of Dayton,
1959; M.B.A., Miami University, 1960; C.P.A., Ohio, 1962.
Conard, Robert C. (1967), Languages - B.B.A., University of Cincinnati, 1956; M.A., 1962; Ph.D., 1969.
DaPolito, Frank J. (1970), Psychology - B.A., Bowling Green State University, 1959; Ph.D., Indiana University, 1966.
Dickinson, Kelvin H. (1979), Law - B.A., Western Michigan University, 1965; LL.B., Harvard University, 1968.
Doepker, Philip E. (1984), Mechanical and Aerospace Engineering,
Professor - B.M.E., University of Dayton, 1967; M.S.M.E., Ohio State
University, 1968; Reg. Prof. Engr.
Drees, Doris A. (1956), Health and Sport Science - B.S., University of Dayton, 1956; M.A., Ohio State University, 1959; Ph.D., University of lowa, 1968.
Eastep, Franklin E. (1980), Mechanical and Aerospace Engineering - 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 - B.S., University of Pittsburgh, 1965; M.S., Air Force Institute of Technology, 1969; Ph.D., Ohio State University, 1973; Reg. Prof. Engr. Eid, Leroy V. (1961), History - B.S.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 M.E., University of Cincinnati, 1963; M.S.M.E., 1967; Ph.D., 1973; Reg.

Prof. Engr.
Eley, Marion J. (1961), Accounting - B.S., University of Dayton, 1959; M.B.A., Xavier University, 1964; C.P.A., Ohio, 1966.

Evans, James H. (1981), Counselor Education and Human Services

- B.A., Ohio Wesleyan University, 1961; M.A., Kent State University, 1964; Ed.D., Indiana University, 1971.
Evers, Anthony J. (1966), Electrical Engineering - B.E.E., University of Dayton, 1953; M.S.E.E., University of Notre Dame, 1955; Reg. Prof. Engr.
Eveslage, Sylvester L. (1948), Chemistry - B.S., University of Notre Dame, 1944; M.S., 1945; Ph.D., 1953.
Farren, Joseph M. (1966), Engineering Technology - B.S., Bluffton College, 1959; B.E.E., University of Dayton, 1961; M.S., 1966; M.B.A., 1977; Reg. Prof. Engr.

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College, 1960; M.A., University of Delaware, 1968; Ph.D., Ohio State University, 1975.
Fost, Roberta S. (1969), History - B.A., University of California, 1964; M.A., University of Chicago, 1966; Ph.D., 1974.

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Friedland, Eric L. (1968), Religious Studies - B.A., Boston University, 1960; M.A., Brandeis University, 1962; Ph.D., 1967.
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Fuchs, Gordon E. (1967), Teacher Education - B.S., University of Wisconsin, 1958; M.S., 1961; Ph.D., Ohio State University, 1974. Gantner, Thomas E. (1966), Mathematics - B.S., University of Dayton, 1962; M.S., Purdue University, 1964; Ph.D., 1966.
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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.
Gilvary, Patrick S. (1955), Communication - B.S., University of Dayton, 1950; M.A., Xavier University, 1963; Ph.D., Ohio State University, 1975. Graham, Thomas P. (1964), Physics - B.S., Providence College, 1956; Ph.D., Iowa State University, 1967.
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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.
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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.

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Quinn, John F. (1970), Philosophy - B.A., Gonzaga University, 1965;
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Ramsey, James M., (1964), Biology - B.S., Wilmington College, 1948;
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Ritter, Charles J. (1967), Geology - B.S., University of Dayton, 1959; M.S., Massachusetts Institute of Technology, 1962; Ph.D., University of Michigan, 1971.
Roberts, Carole L. (1968), Health and Sport Science - B.S.Ed., Ohio State University, 1964; M.A., 1968.
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Rueth, Thomas W. (1987), Counselor Education and Human Services B.S., University of Dayton, 1963; M.A., 1969; Ph.D., Loyola University, Chicago, 1973.
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.
Sandness, Marilyn I. (1974), Music - B.M., Eastman School of Music, 1958; M.M., New England Conservatory of Music, 1960; Reg. Music Therapist. Music Therapist, Board Certified.
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- 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.S., University of Dayton, 1958; M.S., University of Dayton, 1959; Ph.D., University of Dayton, 1964.
Schenk, Joseph A. (1980), Management and Marketing, Associate
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University, 1972; D.B.A., 1976.
Schleppi, Carroll M. (1984), Mathematics - B.S., Chestnut Hill College, 1963; M.S., Ohio State University, 1965.
Schleppi, John R. (1963), Health and Sport Science - B.S., Ohio State University, 1961; M.A., 1963; Ph.D., 1972.
Sekely, William S. (1976), Management and Marketing, Associate Professor - B.S., Allegheny College, 1966; M.S., Case Western Reserve University, 1970; Ph.D., Kent State University, 1975.
Shaughnessy, Gerald J. (1967), Mathematics, Associate Professor B.S., University of Dayton, 1963; M.S., Florida State University, 1964. Shaw, Carol M. (1968), Engineering Technology - B.S., Ohio University, 1963; M.S.Ed., University of Dayton, 1968; M.S., 1973.
Siciliano, Carol J. (1964), Health and Sport Science - B.S.Ed., Bowling Green State University, 1959; M.A.Ed., Western Reserve University, 1962.

Simon, Marvin D. (1987), Engineering Technology - B.S.M.E., University of Cincinnati, 1956; M.B.A., University of Dayton, 1978.
Singer, Sanford S. (1972), Chemistry - B.S., Brooklyn College, 1962; M.S., University of Michigan, 1964; Ph.D., 1967.

Snide, James A. (1974), Chemical and Materials Engineering - B.S., Ohio University, 1959; M.S., Air Force Institute of Technology, 1965; Ph.D., Ohio State University, 1975.
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Steinlage, Ralph C. (1966), Mathematics - B.S., University of Dayton, 1962; M.S., Ohio State University, 1963; Ph.D., 1966.
Stockum, Eleanore K. (1957), English - B.A., College of St. Teresa, 1950; M.A., Marquette University, 1953.
Strange, Jerry D. (1958), Engineering Technology - B.S., Otterbein
College, 1958; M.S., Xavier University, 1964.
Sudzina, Mary R. (1988), Teacher Education - B.S., Virginia
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Sultan, Allen (1978), Law - A.B., Syracuse University, 1952; J.D., Columbia University, 1958; A.M., University of Chicago, 1961; LL.M., New York University, 1965.
Taylor, Amie L. (1981), Counselor Education and Human Services B.S., Central State University, 1957; M.Ed., Miami University, 1970; M.S.Ed., University of Dayton, 1985; Ph.D., Miami University, 1985. Taylor, Bruce M. (1967), History - B.A., Dartmouth College, 1957; M.A., Columbia University, 1962; Ph.D., Fordham University, 1973.

Thiele, Gary A. (1979), Electrical and Computer Engineering - B.S.E.E., Purdue University, 1977; M.S., Ohio State University, 1964; Ph.D., 1968; Reg. Prof. Engr.; Fellow IEEE, 1982.
Tiller, Kathleen (1983), Library - B.S., University of Wisconsin, 1971;
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Tsui, Susan L., (1965), Library - B.A., National Taiwan University, 1961; M.S.L.S., University of Illinois, 1954.

Turner, Dennis J. (1974), Law - B.A., Georgetown University, 1967; J.D., 1970.

Ulrich, Lawrence P. (1964), Philosophy - 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. Vines, Alice G. (1969), History - B.A., B.S.Ed., University of Cincinnati, 1960; M.A., 1961; Ph.D., 1975.
Vlahos, George E. (1978), Management Information Systems and Decision Sciences - B.S., University of Illinois, 1964; M.S., Southern Illinois University, 1967; Ph.D., University of Northern Colorado, 1974. Walker, Mary Ann (1970), Library - B.S.Ed., Kent State University, 1966; M.L.S., 1968; M.B.A., University of Dayton, 1981.

Weaver, Roberta (1969), Teacher Education - B.S., Ohio State University, 1960; M.S.Ed., University of Cincinnati, 1966; Ed.D., 1982. Weiler, John E. (1967), Economics and Finance - B.A., University of Cincinnati, 1960; M.A., 1961; Ph.D., 1973.
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Whitney, James M. (1989), Civil and Environmental Engineering and Engineering Mechanics - B.A., Illinois College, 1959; B.S.T.E., Georgia Institute of Technology, 1959; M.S.T.E., 1961; M.S., Ohio State University, 1964; Ph.D., 1968.
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Winslow, Leon E. (1981), Computer Science - B.S., Marquette University, 1956; M.S., 1960; Ph.D., Duke University, 1965.
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Wurst, John C., (1957), Mechanical and Aerospace Engineering -
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Arndt, Kelly (2007), Counselor Education and Human Services, Assistant Professor - B.Ed., University of Toledo, 1987; M.Ed., Bowling Green State University, 1992; Ph.D., University of Toledo, 2006.
Arnold, Jacqualine (2012), Teacher Education, Clinical Faculty - B.S., University of Dayton, 1993; M.S., University of Dayton, 1997; Ph.D., The Ohio State University, 2006.
Asari, Ramani Vijayan (2012), Engineering Technology, Lecturer B.Sc., University of Kerala, India, 1981; M.Tech., Indian Institute of Technology, Madras, Chennai, India, 1989.
Asari, Vijayan K. (2010), Electrical and Computer Engineering, Professor, Endowed Chair in Wide Area Surveillance - B.S., University of Kerala, 1978; M.T., Indian Institute of Technology, 1984; Ph.D., 1994. Avila-John, Karin (1993), Intensive English Program, Administrative B.A., Instituto Nacional Superior del Profesorado Joaquin v Gongalez, 1979; M.A., Southern Illinois University, 1982.
Baldwin, Joni (2005), Teacher Education, Associate Professor - B.A., University of Kentucky, 1978; M.A., St. Joseph College, 1986; Ed.D., University of South Dakota, 2004.
Ballal, Dilip R. (1990), Mechanical and Aerospace Engineering,
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M.Sc., Cranfield Institute of Technology, 1968; Ph.D., 1972.

Balster, Eric J. (2008), Electrical and Computer Engineering, Assistant Professor - B.S., University of Dayton, 1998; M.S., 2000; Ph.D., Ohio State University, 2004.
Banerjee, Partha P. (2000), Electrical and Computer Engineering, Professor - B.Tech., Indian Institute of Technology, Kharagpur, India, 1979; M.S., University of Iowa, 1980; Ph.D., 1983.
Bardine, Bryan A. (2001), English, Associate Professor - B.A., University of Dayton, 1990; M.A., 1993; Ph.D., Kent State University, 2001. Barnes, Michael H. (1968), Religious Studies, Professor - A.B., St. Louis University, 1961; Ph.L., 1962; Ph.D., Marquette University, 1976. Barrios, Joaquin (2009), Health and Sport Science, Orthopedic Coordinator - B.S., Creighton University, 2000; Ph.D., Duke University, 2003; Ph.D., University of Delaware, 2008.
Bartley, Karen (2005), History, Lecturer - B.A., University of Akron, 1990; M.A., Kent State University, 1993; Ph.D., 1999.

Bauer, Jack J. (2006), Psychology, Associate Professor - B.A., College of the Holy Cross, 1989; Ph.D., Catholic University of America, 1999. Becker, Paul J. (2002), Sociology, Anthropology, and Social Work, Associate Professor - B.S., Indiana State University, 1987; M.S., 1989; Ph.D., Bowling Green State University, 1996.
Bednarek, Janet R. (1992), History, Associate Professor - B.A., Creighton University, 1981; M.A., 1983; Ph.D., University of Pittsburgh, 1987.

Benbow, Mark E. (2008), Biology, Assistant Professor - B.S., University of Dayton, 1994; Ph.D., 1999.
Benin, Vladimir A. (2001), Chemistry, Associate Professor - B.S.,
University of Sofia, 1990; M.S., Vanderbilt University, 1993; Ph.D., 1995.
Benjamin, John A. (2000), Music, Artist-in-Residence - B.S., B.M., University of Akron, 1985; M.M., University of Cincinnati, 1987.
Bennett, Jana (2008), Religious Studies, Associate Professor - B.A.,
Colorado College, 1998; Ph.D., Duke University, 2005.
Benson, Paul H. (1985), Philosophy, Professor - B.A., St. Olaf College, 1979; Ph.D., Princeton University, 1984.
Beran, Donna L. (2012), Communication, Lecturer - B.A., Eastern Kentucky University; M.A., University of Cincinnati.
Berger, Simon (2012), Accounting, Lecturer - Vordiplom, University of Augsburg, 2003; M.B.A., University of Dayton, 2005; Diplom-Kaufmann, University of Augsburg, 2006
Berney, Rex L. (1978), Physics, Professor - B.S., University of Missouri, 1971; M.S., 1973; Ph.D., 1978.
Berry, Melissa A. (2000), Psychology, Visiting Assistant Professor - B.S., Indiana University, 1991; M.A., University of Cincinnati, 1994; Ph.D., 1998.

Bernstein, Elana R. (2011), Counselor Education and Human Services, Clinical Faculty - B.A., University of Michigan, 2003; M.S., University of Wisconsin, 2006; Ph.D., University of Wisconsin, 2010.
Bickford, Deborah J. (1988), Management and Marketing, 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.
Bigelow, Kimberly E. (2009), Mechanical and Aerospace Engineering, Assistant Professor - B.S., Michigan State University, 2003; M.S., Ohio State University, 2005; Ph.D., 2008.
Bilgin, Omer (2009), Civil Engineering, Assistant Professor - B.S., Middle East Technical University, 1991; M.S., Oklahoma State University, 1995; Ph.D., Cornell University, 1999.
Billman, Brett N. (2011), Communication, Lecturer - B.A., University of Northern lowa, 2002; M.A., University of Northern lowa, 2004; Ph.D., Bowling Green State University, 2010.
Bilocerkowycz, Jaro M. (1985), Political Science, Associate Professor B.A., Eastern Illinois University, 1973; M.A., University of Washington, 1975; Ph.D., 1983.
Biswas, Ann E. (2008), English, Lecturer - B.A., Wright State University, 1990; M.A., University of Dayton, 1994.
Blust, Rebecca P. (1998), Engineering Technology, Associate Professor - B.T., University of Dayton, 1987; M.B.A., Wright State University, 1997; M.S.M.S., University of Dayton, 2004.

Bobrowski, Paul M. (2012), Management Information Systems, Operations Management and Decision Sciences, Professor - B.S., United States Air Force Academy, 1972; M.S., Purdue University, 1976 ;Ph.D. Indiana University, 1985.
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Bogard, Treavor L. (2011), Teacher Education, Assistant Professor B.S., McMurry University, 1997; M.A., University of Texas, 2005; Ph.D., University of Texas, 2010.
Borbonus, Dorian (2006), History, Assistant Professor - M.A., University of Pennsylvania, 2003; Ph.D., 2006.
Bourgeois, Jason P. (2012), Marian Library, Assistant Professor

- B.A., Aquinas College, 1993; M.A., Marquette University, 1995;

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Brady, Thomas J. (1981), Accounting, Associate Professor - B.S., New
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Brahler, C. Jayne (2000), Health and Sport Science, Associate
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Branick, Vincent P. (1979), Religious Studies, Professor - B.A.,
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S.S.D., 1975; M.B.A., University of Dayton, 1983.

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Brenner, Susan W. (1988), Law, Professor - B.A., Southwestern Oklahoma State University, 1968; M.A., Kent State University, 1971; J.D., Indiana University, 1981.

Bresnahan, Aili W. (2012), Philosophy, Lecturer - B.A., Columbia University, 1990; M.A., Temple University, 2010.
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Buckley, James P. (1993), Computer Science, Associate Professor - B.A., State University of New York at Oswego, 1981; M.E., Tulane University, 1990; Ph.D., 1994.
Budabin, Alexandra C. (2011), Political Science, Assistant Professor -
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Bunta, Silviu (2007), Religious Studies, Assistant Professor - B.A.,
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Burkhardt, Thomas E. (1992), Vice President for Finance and Administrative Services, Administrative - B.S., University of Dayton, 1970.

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Carrillo, Albino (2003), English, Associate Professor - B.A., University of New Mexico, 1986; M.F.A., Arizona State University, 1993.
Carter, Michael (2006), History, Associate Professor - B.A., University of Southern California, 1999; M.A., 2003; Ph.D., 2006.
Casola, Linda (2009), English, Lecturer - B.A., University of Dayton, 2004; M.A., 2007.
Cassiman, Shawn A. (2007), Sociology, Anthropology, and Social Work, Assistant Professor - B.S., University of Wisconsin-Superior, 2002;
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Castellano, Joseph F. (1999), Accounting, Professor - B.S., St. Louis
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Chaffee, Eric C. (2007), Law, Professor - B.A., Ohio State University, 1999; J.D., University of Pennsylvania, 2002.
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Chase, Donald V. (1993), Civil and Environmental Engineering and Engineering Mechanics, Visiting Professor - B.S.C.E., University of Kentucky, 1985; M.S.C.E., 1989; Ph.D., 1993.
Chatterjee, Monish R. (2002), Electrical and Computer Engineering, Professor - B. Tech, Indian Institute of Technology, 1979; M.S.E.E., University of lowa, 1981; Ph.D., 1985.
Chelle, Robert F. (1999), L. William Crotty Center for Enterprise Leadership, Executive-in-Residence - B.A., Bethany College, 1970; M.B.A., University of Dayton, 1972.

Chen, Rong-chin Carl (1977), Economics and Finance, Professor, William J. Hoben Research Scholar in International Business - B.A., National Taiwan University, 1969; M.S., Auburn University, 1973; Ph.D., University of Georgia, 1977.
Cheney, Kristen E. (2006), Sociology, Anthropology, and Social Work,
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Clarke, John V. (2002), Visual Arts, Associate Professor - B.F.A., University of Dayton, 1993; M.F.A., Rhode Island School of Design, 1996.

Cochran, Rebecca A. (1991), Law, Professor - B.A., Colorado College, 1974; M.A., Northwestern University, 1975; J.D., John Marshall Law School, 1984.
Collier, Trevor (2007), Economics and Finance, Assistant Professor B.S., Centre College, 2002; M.A., Southern Methodist University, 2004; Ph.D., 2006.
Collins, Tracy L. (2012), Biology, Lecturer - B.S., The Ohio State
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Collopy, Rachel (2005), Teacher Education, Associate Professor - B.A., Smith College, 1987; M.A., University of Michigan, 1993; Ph.D., 1999.
Comfort, Don (2008), Chemical and Materials Engineering, Assistant
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Comfort, Kristen K. (2012), Chemical Engineering, Assistant Professor B.S., University of Dayton, 2002; M.S., North Carolina State University, 2006; Ph.D., North Carolina State University, 2007.
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Coovert, Kerry (2008), Teacher Education, Assistant Professor - B.S., University of Dayton, 1997; M.S., Marygrove College, 2002; Ph.D., University of Cincinnati, 2007.
Costales, Kathleen A. (2004), Languages, Assistant Professor - B.A., Wittenberg University, 1986; M.A., Binghampton University; Ph.D, Vanderbilt University, 2004.
Courte, Dale E. (2002), Computer Science, Associate Professor - B.S., Wright State University, 1977; M.S., 1981; Ph.D., 2002.
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Crist, Maria Perez (1989), Law, Professor of Lawyering Skills - B.A., Northwestern University, 1978; J.D., University of Michigan, 1981.
Crosson, Garry (2007), Chemistry, Assistant Professor - B.A., Morgan
State University, 1998; Ph.D., Pennsylvania State University, 2005. Crosson, Kenya (2007), Civil and Environmental Engineering and Engineering Mechanics, Assistant Professor - B.A., Pennsylvania State University, 1998; M.A., 2000; Ph.D., 2005.
Crum, Roger J. (1991), Visual Arts, Professor - B.A., University of Michigan, 1985; M.A., 1986; Ph.D., University of Pittsburgh, 1992. Crutcher, Robert J. (2001), Psychology, Associate Professor - A.B., University of California, Berkeley, 1974; M.A., University of Colorado at Boulder, 1989; Ph.D., 1992.
Curran, Daniel J. (2002), Office of the President, Administrative and
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Cusella, Louis P. (1985), Communication, Professor - B.A., Kent State University, 1971; M.A., Ohio State University, 1974; Ph.D., Purdue University, 1978.
Dalton, Jennifer L. (2011), Health and Sport Science, Lecturer - B.S., The Ohio State University, 1992; M.S., University of New Haven, 1999. Damasco, Ione (2006), Library, Associate Professor - B.A., Ohio State University, 1997; M.L.I.S., Kent State University, 2005.
Daniel-Cox, Minneta D. (2009), Music, Artist-in-Residence - B.A., Bowling Green State University, 2003; M.A., University of Michigan, 2005; D.M.A., 2008.
Daniels, Malcolm W. (1989), Electrical and Computer Engineering, Assistant Professor - B.Sc., University of Strathclyde, 1979; Ph.D., 1982.

Daprano, Corinne M. (2001), Health and Sport Science, Associate Professor - B.A., Cleveland State University, 1985; M.Ed., 1994; Ph.D., Ohio State University, 2001.
Darrow, David (1996), History, Associate Professor - B.A., University of Northern Iowa, 1986; M.A., University of Iowa, 1988; Ph.D., 1996.
Dasgupta, Simanti (2009), Sociology, Anthropology, and Social Work,
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School of Economics, 1995; M.Phil., Delhi School of Economics, 1997; (cand.) Ph.D., New School for Social Reasarch.
Davidson, Edith F. (2010), Management and Marketing, Assistant
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Mississippi, 2001; Ph.D., University of Tennessee, 2007.
Davies, Susan (2006), Counselor Education and Human Services, Assistant Professor - B.A., University of North Carolina at Chapel Hill, 1995; M.S., Miami University, 1997; Sp.E., 1999.
Davis, Susan T. (2001), Psychology, Assistant Professor - B.A., Miami University, 1986; M.A., 1989; Ph.D., 1991.
Davis, Thomas I. (1990), Management Information Systems, Operations Management, 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, Professor - B.S., Denison University, 1979; M.S.W., Ohio State University, 1982; Ph.D., 1985.
DeAloia, Leah (2005), English, Lecturer - B.A., Miami University, 1969; M.A., 1976; Ph.D., University of Michigan, 1981.

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Purdue University, 1970; Ph.D., Florida State University, 1976; Reg.
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De Luca, Barbara M. (1975), Educational Leadership, Associate
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DeMarco, Jr. George M. (1997), Health and Sport Science, Associate Professor - B.S., Bridgewater State College, 1978; M.S., Ithaca College, 1992; Ed.D., University of Georgia, 1998.
Demmitt, Alan (1996), Counselor Education and Human Services, Associate Professor - B.Th., Atlanta Bible College, 1982; M.A., Northeast Louisiana University, 1991; Ph.D., Iowa State University, 1994.

DesAutels, Peggy J. (2001), Philosophy, Professor - B.A., Principia College, 1977; M.S., Washington University, 1988; M.A., 1993; Ph.D., 1995.

Detrio, John A. (1988), Electro-Optics, Associate Professor - B.S., Spring Hill College, 1959; M.S., University of Alabama, 1961.
Diaz, Marian K. (2012), Religious Studies, Lecturer - B.A., University of Notre Dame, 1991; M.A., Catholic Theological Union, 1996; D. Min., Barry University, 2003
Diaz, Miguel H. (2012), Religious Studies, Professor \& University Professor of Faith and Culture - M.A.,University of Notre Dame, 1992; Ph.D., University of Notre Dame, 2000.
Dickey, Irene J. (1992), Management and Marketing, Lecturer - B.S., University of Dayton, 1982; M.B.A., Wright State University, 1987. Diestelkamp, Wiebke S. (1998), Mathematics, Associate Professor M.S., University of Wisconsin-Milwaukee, 1992; Ph.D., 1998.

Dixon, Lee (2009), Psychology, Assistant Professor - B.A., Western Kentucky University, 2000; M.A., 2002.
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Doench, Meredith (2010), English, Lecturer - B.S., Ball State University, 1998; M.A., University of Dayton, 2003; Ph.D., Texas Tech University, 2007.

Dolph, David (2005), Educational Leadership, Clinical Faculty - B.S., University of Dayton, 1970; M.S., Xavier University, 1973; Ph.D., University of Dayton, 1994.
Donahoe-Fillmore, Betsy K. (2006), Health and Sport Science, Associate Professor - B.S., Ohio State University, 1988; M.S., University of Indianapolis, 1992; Ph.D., Union Institute and University, 2002. Donaldson, Steven L. (2006), Civil and Environmental Engineering and Engineering Mechanics, Assistant Professor - B.S., Purdue University, 1981; M.S., University of Dayton, 1987; Ph.D., Stanford University, 1993.

Donnelly, Patrick G. (1979), Sociology, Anthropology, and Social Work, Professor - B.S., St. Joseph's College, 1974; M.A., University of Delaware, 1977; Ph.D., 1981.
Dorf, Samuel N. (2010), Music, Assistant Professor - B.A., Boston University, 2002; B.M., 2002; M.A., Tufts University, 2004; Ph.D., Northwestern University, 2009.
Doty, John H. (2008), Engineering Management and Systems, Associate Professor - B.S., Clarkson University, 1980; B.S., Air Force Institute of Technology, 1984; M.S., 1995; Ph.D., Purdue University, 1999.

Doyle, Dennis M. (1984), Religious Studies, 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. Driskell, Shannon, O.S. (2003), Mathematics, Associate Professor B.S., Edinboro University, 1992; M.A., East Carolina University, 1997; (cand.) Ph.D., University of Virginia, 2003.
Duncan, Bradley D. (1991), Electrical and Computer Engineering and Electro-Optics, Professor - B.S.E.E., Virginia Polytechnic Institute and State University, 1986; M.S., 1988; Ph.D., 1991.
Dunlevy, Linda (1994), Communication, Assistant Professor - B.A., University of Kentucky, 1970; M.F.A., Indiana University, 1987. Dunne, E. James (1982), Management Information Systems, Operations Management, 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 G. (1980), Law, Professor - A.B., University of California, Berkeley, 1973; J.D., University of California, Davis, 1976. Durmusoglu, Serdar (2007), Management and Marketing, Assistant Professor - B.S., Bogazrai University, 1997; M.B.A., Purdue University, 2001.

Edmonson, Charlie P. (1993), Engineering Technology, Professor - B.S., Tennessee State University, 1964; M.S., University of Pittsburgh, 1968. Eggemeier, F. Thomas (1986), Psychology, Professor - B.A., University of Dayton, 1967; M.A., Ohio State University, 1969; Ph.D., 1971.
Elhamri, Said (1997), Physics, Professor - B.A., Kenyon College, 1989; M.S., University of Cincinnati, 1991; Ph.D., 1995.

Elliott, Susan (2003), Law Library, Associate Professor - J.D., University of Dayton, 1987; M.L.S., Kent State University, 2002.
Eloe, Paul W. (1980), Mathematics, Professor - B.A., Vanderbilt
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Elsass, Michael (2008), Chemical and Materials Engineering, Assistant
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University, 1997; Ph.D., 2001.
Elvers, Greg C. (1990), Psychology, Associate Professor - B.S., Purdue
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Engelhardt, Elizabeth (2005), Teacher Education, Clinical Faculty - B.A., Antioch University, 1998; M.A., Pacific Oaks College, 2002.
Engle, Marianne S. (2012), Psychology , Lecturer - B.S., University of Wisconsin, 1990; Ph.D., Indiana University, 2001.
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Ensalaco, Mark (1989), Political Science, Associate 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.
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Eustace, Deogratias (2005), Environmental Engineering \& Engineering Mechanics, Associate Professor - B.S., University of Dar-Es-Salaamm, 1992; M.S., 1997; Ph.D., Kansas State University, 2001.
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Flockerzie, Lawrence J. (1987), History, Associate Professor - B.A., University of Massachusetts, 1976; M.A., Indiana University, 1982; Ph.D., 1987.
Flynn, Roland R. (2001), Communication, Lecturer - B.A., University of Wisconsin-Eau Claire, 1982.
Forbis, Jeremy S. (2008), Sociology, Anthropology, and Social Work, Assistant Professor - B.S., State University of New York at Brockport, 2001; M.A., Ohio State University, 2006; Ph.D., 2008.
Forlani, Victor M., S.M. (1995), Management and Marketing, Lecturer - B.S., University of Dayton, 1965; B.S.Ed., 1965; M.S., Syracuse University, 1973; M.B.A., University of Pittsburgh, 1989; D.B.A., Boston University, 1995.
Fouke, Daniel C. (1988), Philosophy, Professor - B.A., University of lowa, 1975; M.A., University of Chicago, 1983; Ph.D., 1986.
Frasca, Ralph R. (1972), Economics and Finance, Professor - B.A., C.W. Post College, 1967; M.A., Indiana University, 1971; Ph.D., 1975. Fried, Joel R. (2010), Chemical and Materials Engineering, WBI Endowed Chair in Nanomaterials - B.S., University of Dayton, 1971; M.S., University of Dayton, 1972; M.S., University of Massachusetts, 1975; Ph.D., University of Massachusetts, 1976.
Friese, Carl F. (1992), Biology, Associate Professor - B.S., University of Connecticut, 1982; M.S., University of Rhode Island, 1984; Ph.D., Utah State University, 1991.
Gabbe, Myrna (2005), Philosophy, Associate Professor - B.A., University of Wisconsin, 1995; Ph.D., University of Pennsylvania, 2005.
Gallo, Gerry (2007), Health and Sport Science, Lecturer - B.S., Lake Superior State University, 2002; B.Ed., Lakehead University, 2003; M.S., University of Dayton, 2006.

Gallagher, Colleen E. (2012), Teacher Education, Clinical Faculty B.A., Xavier University, 2000; M.S., Georgetown University, 2005; Ph.D., Georgetown University, anticipated May 2012.
Gannon, Loren S., Jr. (1975), History, Adjunct Professor - B.S., University of Omaha, 1963; M.A., University of Dayton, 1970. Gardstrom, Susan C. (1998), Music, Associate Professor - B.M., Michigan State University, 1981; M.A., Western Michigan University, 1985; Ph.D., Michigan State University, 2004
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Gentner, John (2006), Management and Marketing, Lecturer - B.A., Capital University, 2003; M.B.A., University of Dayton, 2004. Gerla, Harry S. (1979), Law, Professor - B.A., Queens College, 1970; M.A., University of Florida, 1972; J.D., Ohio State University, 1975 Davies, Susan (2006), Counselor Education and Human Services, Assistant Professor - B.A., University of North Carolina at Chapel Hill, 1995; M.S., Miami University, 1997; Sp.E., 1999.
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Giglierano, Joan (2006), Library, Associate Professor - B.A., Ohio State University, 1974; M.A., Case Western Reserve University, 1977; M.L.S., Indiana University, 1988.
Glenn, Terri (2007), Health and Sport Science, Clinical Faculty - B.S., Daemen College, 1980; M.S., Ohio State University, 1986; Ph.D., 1990. Globig, James E. (1998), Engineering Technology, Associate Professor - B.E.T., University of Dayton, 1979; M.B.A., Miami University, 1982;
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Gold, Scott A. (2010), Chemical and Materials Engineering, Associate Professor \& ORS Endowed Chair in Multiscale Composites - B.S., University of Kentucky, 1996; M.S., Georgia Institute of Technology, 1999; Ph.D., Arizona State University.
Goldman, Daniel (1997), Geology, Associate Professor - B.A., State University of New York at Buffalo, 1985; M.A., 1987; Ph.D., 1993. Gooch, Peter G. (1986), Visual Arts, Associate Professor - B.S.,
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Goodnight, Jackson A. (2010), Psychology, Assistant Professor - B.S., Xavier University, 2002; Ph.D., Indiana University, 2010.
Gorman, Michael F. (2002), Management Information Systems, Operations Management, and Decision Sciences, Professor - B.S., Xavier University, 1987; M.A., Indiana University, 1990; Ph.D., 1994. Gorton, Robert B. (1969), Mathematics, Associate Professor - B.S., Illinois Institute of Technology, 1964; M.S., 1966; Ph.D., 1970. Gowda, Raghava G. (1983), Computer Science, Associate Professor - B.S.E.E., Banaras Hindu University, 1971; M.B.M., 1973; M.B.I.S., Georgia State University, 1981; Ph.D., 1988.
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Greene, Frederick D. (2004), Law, Professor - B.A., Columbia University, 1972; Ed.M. Harvard University 1984; J.D., Yale, 1987. Greenlee, Janet S. (1999), Accounting, Associate Professor - B.S., Ohio State University, 1967; M.S.W., West Virginia University, 1973; M.B.A., University of California, Los Angeles, 1978; Ph.D., University of Kentucky, 1993.
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Griffin, Jeffrey L. (1990), Communication, Associate Professor - A.B., University of North Carolina, 1979; M.A., University of Texas, 1983; Ph.D., University of North Carolina, 1990.
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Hall, Scott E. (1996), Counselor Education and Human Services, Associate Professor - B.S.B.A., West Carolina University, 1986; M.Ed., Ohio University, 1991; Ph.D., Ohio State University, 1994.
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Hallinan, Charles G. (1983), Law, 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, Professor - B.S., University of Akron, 1982; M.S., Purdue University, 1984; Ph.D., Johns Hopkins University, 1988.
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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.
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Hicks, Emily A. (2002), Library, Associate Professor - B.A., Transylvania University, 1991; M.L.S., University of Kentucky, 1993.
Higgins, Aparna W. (1984), Mathematics, Professor - B.Sc., University of Bombay, 1978; M.S., University of Notre Dame, 1980; Ph.D., 1983. Hiller, James M. (2001), Music, Lecturer - B.M., Capital University, 1982; M.M.T., Temple University, 1994; MT-BC.

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Hirunyawipada, Tanawat (2011), Management and Marketing, Assistant Professor - B.Eng., Chiang Mai University, 1993; M.B.A., National Institute of Development Administration, 1998; Ph.D., University of North Texas, 2007.
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Jacobs, Mark (2009), Management Information Systems, Operations Management, and Decision Sciences, Assistant Professor - B.S., California Polytechnic State University, 1988; M.B.A., University of Minnesota, 2003; Ph.D., Michigan State University, 2008.
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Janney, Jay J. (2001), Management and Marketing, Associate Professor - B.A., Ball State University, 1984; M.B.A., 1986; Ph.D., University of Kentucky, 1999.
Jenkins, Fred W. (1987), Library, Professor - B.A., University of Cincinnati, 1979; A.M., University of Illinois, 1981; Ph.D., 1985; M.S., 1986.

Jennings, Glenna (2011), Visual Arts, Lecturer - B.A., Pepperdine University, 1995, 1995; B.F.A., Art Center College of Design, 2004; M.F.A., University of California, 2010.

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John, Barbara H. (2002), Economics and Finance, Lecturer - B.A., Dartmouth College, 1977; M.A., University of Colorado at Boulder, 1985. Johnson, David W. (1984), Chemistry, Associate Professor - B.S., Illinois Institute of Technology, 1979; Ph.D., 1983.
Johnson, Kelly S. (2002), Religious Studies, Associate Professor - B.A., University of Notre Dame, 1986; M.A., 1987; Ph.D., Duke University, 2001.

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Johnston, William (2006), Religious Studies, Associate Professor - B.A., University of Notre Dame, 1972; M.A., 1977; Ph.D., 1980.
Jones, Jeffrey C. (2002), Visual Arts, Associate Professor - B.F.A., University of Tennessee at Chattanooga, 1998; M.F.A., University of Cincinnati, 2000.
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.
Kallenberg, Brad J. (2001), Religious Studies, Professor - B.S. Ed., University of Minnesota, 1981; M.A., Fuller Theological Seminary, 1992; Ph.D., 1998.
Kanet, John J. (2002), Management Information Systems, Operations Management, and Decision Sciences, Professor, Niehaus Chair in Operations Management - B.S., Lehigh University, 1967; M.B.A., Loyola College, 1971; Ph.D., Pennsylvania State University, 1979. Kango-Singh, Madhuri (2009), Biology, Assistant Professor - B.S., Vikram University, 1989; M.S., Devci Ahilya University, 1991; Ph.D., 1997.

Kashani, A. Reza (1994), Mechanical and Aerospace Engineering, Professor, - B.S.M.E., Sharif University, 1977; M.S.M.E., University of Wisconsin, 1979; M.S., 1988; Ph.D., University of Wisconsin, 1989.
Katsuyama, Ronald M. (1973), Psychology, Associate Professor - B.S., University of California, 1966; Ph.D., Vanderbilt University, 1977. Kavanaugh, Jeffrey L. (2003), Biology, Lecturer - B.S., University of Kansas, 1984; M.S., 1988; Ph.D., Virginia Polytechnic Institute, 1998. Kearns, Robert J. (1984), Biology, Professor - B.S., Washington State University, 1968; M.S., 1975; Ph.D., 1978; M.T. (ASCP), 1971. Kebede, Messay (1998), Philosophy, Professor - B.A., University of Grenoble, France, 1971; M.A., 1973; Ph.D., 1976.
Keen, Virginia (2007), Mathematics, Assistant Professor - B.A., Western Michigan University, 1972; M.A., 1975; Ph.D., Michigan State University, 1994
Keil, R. Gerald, (1969), Chemistry, Professor - B.S., Villanova University, 1963; Ph.D., Temple University, 1967.
Kelly, Katherine L. (2010), Library, Assistant Professor - B.S., Ohio University, 2008; M.S., Syracuse University, 2010.
Kelly, Mary Kay (2005), Teacher Education, Associate Professor - B.A., College of St. Benedict, 1987; B.S., University of Minnesota, 1990; M.Ed., Miami University, 1996; Ph.D., 2001.

Kenworthy, Thomas P. (2011), Management and Marketing, Assistant Professor - B.A., Memorial University, 1994; M.B.A., University of Calgary, 1998; Ph.D., University of Calgary, 2008.
Kiewitz, Christian (2002), Management and Marketing, Associate Professor - M.A., Johannes Gutenberg Universitat, Germany, 1995; M.A., Auburn University, 1998; Ph.D., University of Alabama, 2002. Kimbrough, R. Alan (1969), English, Professor - B.A., Carthage College 1965; A.M., Brown University, 1966; Ph.D., 1974.
King, Wesley C., Jr. (1996), Management and Marketing, Professor B.B.A., Valdosta State College, 1975; J.D., University of Georgia, 1983; Ph.D., 1988.
Kinnucan-Welsch, Kathryn (1997), Teacher Education, Professor -
B.A., University of Illinois at Urbana-Champaign, 1971; M.A., Western Michigan University, 1988; Ed.D., 1995.
Kirschman, Keri (2005), Psychology, Associate Professor - B.A., Denison University, 1997; M.A., University of Kansas, 1999; Ph.D. 2003.

Kissock, John K. (1995), Mechanical and Aerospace Engineering, Professor - B.S., University of Colorado, 1982; M.S., Washington
University, 1989; Ph.D., Texas A\&M University, 1993.

Kizer, Tremon B. (2010), Music, Lecturer - B.A., Kansas State
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Klco, Daniel L., S.M. (2001), Biology, Lecturer - B.A., Western Michigan
University, 1972; M.P.S., Loyola University, Chicago, 1981; M.S. University of Dayton, 1992.
Kloppenberg, Lisa A. (2001), Law, Professor - B.A., University of Southern California, 1984; J.D., 1987.
Kowalski, Theodore J. (2000), Educational Leadership, Professor, Kuntz Chair in Educational Leadership - B.S., Indiana State University, 1965; M.S., 1968; Ph.D., 1971.

Kozak, Michael J. (2008), Engineering Technology, Assistant Professor B.S., University of Akron, 1982; M.S.M.E., University of Cincinnati, 1986; Reg. Prof. Engr.
Kozar, Rev. Joseph F., S.M. (1985), Religious Studies, Assistant
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Krakowski, Rebecca J. (2000), Mathematics, Associate Professor - B.S., Allegheny College, 1986; M.S., North Carolina State University, 1995;
Ph.D., 2000.
Krane, Carissa M. (2001), Biology, Associate Professor - B.S., Marquette University, 1990; Ph.D., Washington University, 1996. Krieger, Michael T. (1983), Library, Professor - B.S., Central Michigan University, 1972; M.L.S., Western Michigan University, 1976.
Krugh, Janis L. (1987), Languages, Associate Professor - B.A., Ohio Northern University, 1974; M.A., University of Toledo, 1979; Ph.D., University of Pittsburgh, 1986.
Krummel, Miriamne A. (2002), English, Associate Professor - B.A., University of Connecticut, 1988; M.A., Hunter College, 1992; Ph.D., Lehigh University, 2002.
Krystofik, Anthony (2006), Management and Marketing, Lecturer - B.S., University of Dayton, 1978; M.B.A., 1982.
Kumar, Binod (2006), Mechanical and Aerospace Engineering,
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State University, 1973; Ph.D., 1976.
Kunz, Benjamin R. (2010) Psychology, Assistant Professor - B.S., University of Utah, 2001; M.S., 2007; Ph.D., 2010.
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Kwon, Suki (2004), Visual Arts, Associate Professor - B.A., Dae Gu University, 1999; M.A., University of Iowa; M.F.A., 2003.
Lafdi, Kahlid (2001), Chemical and Materials Engineering, Professor \& WBI Endowed Chair in Nanmaterials - M.S., Nancy University, 1987; Ph.D., 1989; D.Sc., 1991.
Langhorne, Anna L. (2001), Communication, Assistant Professor - B.A., State University of New York at Buffalo, 1993; M.A., 1998; Ph.D., 2000. Larson, Robert K. (2001), Accounting, Professor - B.S., George Fox
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Lasley, Thomas J., II (1983), Teacher Education, Professor - B.S., Ohio State University, 1969; M.A., 1972; Ph.D., 1978.
Lau, Terence J. (2002), Management and Marketing, Associate Professor - B.A., Wright State University, 1995; J.D., Syracuse University, 1998.
Laubach, Lloyd L. (1980), Health and Sport Science, Associate
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Linderman, Jon K. (2000), Health and Sport Science, Associate Professor - B.A., California State University, 1984; M.A., 1987; Ph.D., University of California, 1991.
Liu, Ruihua (2004), Mathematics, Associate Professor - B.E., Nankai University, 1985; M.E., 1988; Ph.D. (Engineering), 1994; M.S., University of Georgia, 2001; Ph.D. (Mathematics), 2002.
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Marcinowski, M. Gary, S.M. (1993), Visual Arts, Associate Professor B.F.A., Boston University, 1980; M.F.A., Rhode Island School of Design, 1993.

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Merithew, Caroline A. (2002), History, Associate Professor - B.A., University of Missouri, 1990; M.A., University of Illinois at UrbanaChampaign, 1994; Ph.D., 2000.
Merriman, Harold L. (2006), Health and Sport Science, Associate Professor - B.A., Atlantic Union College, 1982; Ph.D., Loma Linda University, 1990; M.P.T., Andrews University, 1997.
Miller, Dan E. (1978), Sociology, Anthropology, and Social Work, Professor - B.S., University of Iowa, 1970; M.A., 1972; Ph.D., 1979. Miller, Kurtz K. (2012), Teacher Education, Clinical Faculty - B.S., Bedrock Geology of Blackhand Gorge, 2000; M.S.T., Wright State University, 2002; M.S., Wright State University, 2004; M.Ed., Wright State University, 2008; Miller, Nancy A. (2002), Political Science, Associate Professor - B.A., Clemson University, 1995; M.A., Rice University, 2000; Ph.D., 2002.
Miller, Sheila (2004), Law, Professor of Lawyering Skills - B.A., Miami University, 1983; J.D., University of Cincinnati, 1987.
Miller, Tracy K. (2002), Management and Marketing, Lecturer - B.S.B.A., Ohio State University, 1985; M.L.H.R., 1986.
Miller, Vincent (2009), Religious Studies, Professor \& Gudorf Chair in Catholic Theology- M.A., University of Notre Dame, 1990; Ph.D., 1997.

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.
Monk, Debra P. (1999), Residential Programs, Administrative - B.A., University of North Carolina at Charlotte, 1993; M.A., University of Dayton, 1995.
Montoya, R. Matthew (2008), Psychology, Assistant Professor -
B.A., University of California, Berkeley, 1996; M.A., University of Massachusetts/Dartmouth, 1998; Ph.D., University of North Carolina at Chapel Hill, 2004.
Moon, Donald L. (1974), Electrical and Computer Engineering and Electro-Optics, 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, Cecilia A. (1996), Religious Studies, Associate Professor - A.B., Sweet Briar College, 1988; M.A., University of Virginia, 1991; Ph.D., 1996.

Morgan, Thomas L. (2006), English, Associate Professor - B.A., University of Oregon, 1993; M.A., University of Buffalo, 1999; Ph.D., 2004.

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.
Morris, Jeffrey W. (1981), Law, Professor, Samuel A. McCray Chair of Law - B.A., Providence College, 1974; J.D., Washington and Lee University, 1977.
Morris III, Willie L. (1993), Music, Associate Professor - B.M.E., East Carolina University, 1982; M.A., Stephen F. Austin State University, 1984; D.M.A., University of Missouri at Kansas City Conservatory of Music, 1996.
Morrow, Gary W. (1988), Chemistry, Professor - B.A., Ohio State University, 1984; Ph.D., 1988
Mosher, Arthur D. (1994), Languages, Associate Professor - B.A., Wheaton College, 1971; M.A., Syracuse University, 1975; Ph.D., University of Massachusetts, 1979.
Mosser, Kurt (1992), Philosophy, Associate Professor - B.A., Southern Methodist University, 1979; M.A., University of Chicago, 1982; Ph.D., 1990.

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, Administrative - B.A., University of Dayton, 1974; M.A., 1976; Ed.D., University of Cincinnati, 1987.

Mueller-Hansen, Karolyn (2009), Biology, Assistant Professor - B.S., Pennsylvania State University, 1980; M.S., Drexel University, 1984; Ph.D., University of Delaware, 1990.
Mullins, Monalisa M. (1989), Teacher Education, Lecturer - B.A., St. Leo College, 1985; M.A., University of Dayton, 1987; Ph.D., 2003.
Mundew, Leslie M. (2002), Economics and Finance, Lecturer - B.S., Ohio State University, 1979; M.B.A., Harvard University, 1984.
Murray, Andrew P. (1996), Mechanical and Aerospace Engineering,
Professor - B.S., Rose-Hulman Institute of Technology, 1989; M.S., University of California, Irvine, 1993; Ph.D., 1996.
Murray, Paul T. (1982), Materials Engineering, Professor - B.S., University of Cincinnati, 1974; Ph.D., University of North Carolina, 1979. Mykytka, Edward F. (1998), Engineering Management and Systems, Professor - B.S., University of Dayton, 1976; M.S., University of Iowa, 1978; Ph.D., University of Arizona, 1983.

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Nickell, Philip K. (2011), Biology, Lecturer - B.S., Wright State
University, 2002; M.S., Wright State University, 2004; Ph.D., University of Notre Dame, 2011.
Nielsen, Mark G. (2001), Biology, Associate Professor - B.A., Oberlin College, 1988; Ph.D., Stanford University, 1994.
Niles, Fred (1985), Visual Arts, Professor - B.S., Edinboro State College, 1964; M.A., University of Northern Colorado, 1974; M.F.A., Syracuse University, 1987.
Ober, Shirley J. (2000), Mathematics, Lecturer - B.S., Edinboro University of Pennsylvania, 1970; M.A., State University of New York at Buffalo, 1972.
Oberlander, Judith (1987), Institute for Technology-Enhanced Learning, Administrative - B.A., University of Dayton, 1969; M.S., 1987; Ph.D., 2002.

O'Gorman, John M. (1999), Library, Associate Professor - B.A., Walsh
University, 1981; M.L.S., St. John’s University, 1983.
Oh, Kyoungrae (2006), Communication, Lecturer - B.A., Sogang University, 1995; M.A., 1998; M.S., University of Georgia, 2003; ABD, Purdue University, 2008.
Oldenski, Thomas, S.M. (1994), Educational Leadership, Associate Professor - B.A., University of Dayton, 1972; M.Ed., Boston College, 1975; M.A., Western Michigan University, 1978; Ed.S., University of Dayton, 1984; Ph.D., Miami University, 1994.
O'Mara, Erin M. (2011), Psychology, Assistant Professor - B.A., Quinnipac Universtiy, 2003; M.A., Northern Arizona University, 2005; Ph.D., University of Tennessee, 2011.
Ordóñez, Raúl, E. (2001), Electrical and Computer Engineering,
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Orji, Cyril (2005), Religious Studies, Associate Professor - B.A., University of Ibadan, 1990; M.Div., Dominican House of Studies, 1994; M.Ed., North Dakota State University, 2003; Ph.D., Marquette University, 2005.
Pair, Donald L. (1991), Geology, Professor - B.S., St. Lawrence University, 1983; M.Sc., University of Waterloo, 1986; Ph.D., Syracuse University, 1991.
Pan, Yue (2003), Management and Marketing, Associate Professor B.A., Tsinghua University, 1996; B.Eco., 1996; M. Eng., 1998; Ph.D., University of Georgia, 2003.
Paslaru, Viorel (2007), Philosophy, Assistant Professor - B.A., University of Bucharest, 1996; M.A., 1998; Ph.D., University of Cincinnati, 2007. Pautz, Michelle (2008), Political Science, Assistant Professor - B.A., Elon University, 2003; M.A., Virginia Polytechnic Institute, 2005; Ph.D., 2008.

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Pedrotti, Leno M. (1987), Physics, Professor - B.A., Wright State
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Peeler, Deborah (1995), Engineering Management and Systems, Adjunct Professor - B.S., Purdue University, 1977; M.S., University of Cincinnati, 1979; J.D., Salmon P. Chase College of Law, 1983; Ph.D., University of Dayton, 1992; Reg. Prof. Engr.

Peñas-Bermejo, Francisco J. (1991), Languages, Professor - B.A., Universidad Complutense, 1984; M.A., University of Georgia, 1986; Ph.D., 1991.
Penno, Robert P. (1987), Electrical and Computer Engineering,
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Perna, Richard P. (1982), Law, Professor - B.A., Villanova University, 1971; J.D., 1975.
Perugini, Saverio, Jr. (2004), Computer Science, Associate Professor -
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Petrykowski, John C. (1985), Mechanical and Aerospace Engineering,
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Phelps, Andrew W. (1996), Materials Engineering, Adjunct Professor -
B.S., Pennsylvania State University, 1983; M.S., 1987; Ph.D., 1990.

Phelps, Kyle (2002), Visual Arts, Associate Professor - B.S., Ball State
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Picca, Leslie (2005), Sociology, Anthropology, and Social Work,
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Pici, Joseph R. (1965), English, Professor - B.S., University of Dayton, 1962; M.A., 1964.
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Pinnell, Margaret F. (2000), Mechanical and Aerospace Engineering,
Associate Professor - B.M.E., University of Dayton, 1988; M.S., 1988;
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Place, A. William (1994), Educational Leadership, Associate Professor

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University, 1988.
Poe, Danielle M. (2001), Philosophy, Associate Professor - B.A., Seattle
University, 1995; M.A., Catholic University, Belgium, 1997; Ph.D., Fordham University, 2001.
Poitras, Marc A. (1998), Economics and Finance, Associate Professor

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Polanski, Patricia J. (1998), Counselor Education and Human Services,
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Polzella, Donald J. (1972), Psychology, Professor - B.A., University of Rochester, 1967; M.A., Bucknell University, 1969; Ph.D., University of Michigan, 1974.
Portier, William L. (2003), Religious Studies, Professor \& Spearin
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Potter, Rebecca C. (2002), English, Associate Professor - B.A., University of California, Davis, 1991; M.A., Brandeis University, 1998; Ph.D., 2001.
Powers, Peter E. (1997), Physics, Professor - B.S., Massachusetts Institute of Technology, 1988; M.S., Cornell University, 1990; Ph.D., 1994.

Prasad, Jayesh (1990), Management Information Systems, Operations Management, and Decision Sciences, Associate Professor - B.Tech., Indian Institute of Technology, Kharagpur, 1982; P.G.D.M., Indian Institute of Management, Calcutta, 1984; Ph.D., University of Pittsburgh, 1994.

Qumsiyeh, Maher (2008), Mathematics, Assistant Professor - M.A., Indiana University, 1979; Ph.D., 1986.

Raffoul, Youssef N. (1999), Mathematics, Professor - B.S., University of Dayton, 1987; M.S., 1989; M.A., Indiana University, 1991; Ph.D., Southern Illinois University at Carbondale, 1996.
Raisch, C. Daniel (1991), Educational Leadership, Associate Professor - B.S., Wilmington College, 1961; M.A., Wittenberg University, 1966;

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Randall, Vernellia R. (1990), Law, Professor - B.S., University of Texas, 1972; M.S., University of Washington, 1978; J.D., Lewis and Clark Northwestern School of Law, 1987.
Rapela-Heidt, Mari (2009), Religious Studies, Lecturer - Ph.D.,
Marquette University, 2004.
Razek, Nasser (2012), Counselor Education, Clinical Faculty - B.A., Zagazig University, 1991; Academic Master of Al Alsun, Ain Shams University, 1992; M.A., The University of Akron, 2007; Ed. D., University of Akron, Anticipated May 2012.
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Reid, Patricia (2009), History, Assistant Professor - B.A., California State University, 1989; M.A., University of lowa, 1995; Ph.D., 2006.
Reilly, Tracy L. (2006), Law, Professor - B.A., Northern Illinois
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Reising, John M. (1995), Engineering Management and Systems,
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Rice, Frances E. (1999), Library, Associate Professor - B.A., University of Dayton, 1976; M.B.A., 1987; M.L.S., Kent State University, 1996. Richards, Stephen B. (2000), Teacher Education, Associate Professor - B.A., University of North Carolina at Chapel Hill, 1976; M.A., East Carolina University, 1979; Ed.D., Florida Atlantic University, 1999. Richards, William M. (1970), Philosophy, Professor - B.A., LeMoyne College, 1966; Ph.D., Georgetown University, 1970. Ridenour, Carolyn R. (1990), Educational Leadership, Professor - B.A., Indiana University, 1964; M.A.T., 1967; Ed.D., University of Akron, 1980. Ritterhoff, Kimberly A. (2011), Health and Sport Science, Lecturer B.S., Ohio University, 2003; M.S., Wright State University, 2011. 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. Robinson, James D. (1982), Communication, Professor - B.A., University of the Pacific, 1978; M.A., West Virginia University, 1979; Ph.D., Purdue University, 1982.
Robinson, James N. (1997), Engineering Management and Systems,
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Robinson, Jayne B. (1994), Biology, Professor - B.S., Bowling Green State University, 1978; M.S., Ohio State University, 1984; Ph.D., 1991. Rodgers, Linda V. (1998), Counseling Center, Administrative - B.A., Mt. Mary College, 1989; M.S., University of Wisconsin-Milwaukee, 1991; Ph.D., 1998.
Rodriguez, Dario N. (2012), Psychology, Lecturer - B.A., University of Dayton, 2006; M.A., University of Dayton, 2008; Ph.D., John Jay College of Criminal Justice \& the Graduate Center, 2012.

Roecker Phelps, Carolyn E. (1995), Psychology, Associate Professor - B.S., University of Illinois, 1984; M.S., Illinois State University, 1990; Ph.D., University of lowa, 1994.
Rogero, Leroy H. (2008), Accounting, Lecturer - B.S., University of Dayton, 1968; M.S., 1971.
Roten, Rev. Johann G., S.M. (1987), International Marian Research Institute, 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 Theological Faculty Marianum in Rome, 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.
Rowley, James B. (1989), Teacher Education, Professor - B.S., University of Dayton, 1969; M.S., Miami University, 1974; Ph.D., Ohio State University, 1989.
Ruggiero, John G. (1995), Economics and Finance, Professor, Edmund
B. O'Leary Chair in Economics - B.A., State University of New York at Cortland, 1988; M.A., Syracuse University, 1992; Ph.D., 1995.
Rush, Tobias W. (2011), Music, Assistant Professor - B.A., Adams
State College, 1996; M.M., University of Northern Colorado, 1998; D.A., University of Northern Colorado, 2007.
Russo, Charles J. (1996), Educational Leadership, Joseph Panzer
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Seminary of the Immaculate Conception, 1978; J.D., St. John's
University School of Law, 1983; Ed.D., St. John's University Graduate School of Education and Human Services, 1989.
Sableski, Mary (2012), Teacher Education, Clinical Faculty - B.S.,
University of Dayton, 1998; M.S., University of Dayton, 2001; Ph.D., The Ohio State University, 2007.
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, Professor - B.S., University of Dayton, 1979; M.S., 1980; Ph.D., 1983; Reg. Prof. Engr.

Saliba, Tony E. (1986), Chemical and Materials Engineering, Professor B.Ch.E., University of Dayton, 1981; M.S., 1982; Ph.D., 1986.

Salih, Jusuf (2012) , Religious Studies, Assistant Professor - B.A., Marmara University, 1994; M.A., Marmara University, 1997; M.A., University of Virginia, 2006; Ph.D., University of Virginia, 2011.
Salisbury, William D. (2002), Management Information Systems, Operations Management, and Decision Sciences, Assistant Professor - B.B.A., Ohio University, 1986; M.B.A., Miami University, 1988; Ph.D., University of Calgary, 1996.
Sandhu, Sarwan S. (1980), Chemical and Materials Engineering,
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Sandy, Michael R. (1987), Geology, Professor - B.S., Queen Mary College, University of London, 1980; Ph.D., 1984.
Santamarina, Juan C. (1997), History, Associate Professor - B.A., University of Wisconsin-Madison, 1989; Ph.D., Rutgers University, 1995. Sanyal, Tamisra (2009), Computer Science, Lecturer - B.S., University of Calcutta, 1973; M.S., India Institute of Technology Kanpur, 1976; M.Tech., 1976; M.S., University of Rochester, 1983.

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.
Sarangan, Andrew M. (2000), Electro-Optics, Professor - B.A.Sc., University of Waterloo, 1991; M.A.Sc., 1993; Ph.D., 1996.
Sathish, Samachary (1999), Materials Engineering, Adjunct Associate Professor - B.S., University of Mysore, 1974; M.S., 1976; Ph.D., 1986.

Scantlin, Ronda M. (2002), Communication, Associate Professor B.A., Bethany College, 1992; M.A., University of Kansas, 1995; Ph.D., University of Texas-Austin, 1999.
Schaller, Molly A. (1989), Counselor Education and Human Services, Associate Professor - B.A., Ohio State University, 1987; M.S., Miami University, 1989; Ph.D., Ohio University, 2000.
Schellhammer, Ulrike B. (2001), Languages, Lecturer - M.A., Rice University, 1989; Ph.D., 1993.
Scheuermann, George (2007), Teacher Education, Clinical Faculty B.A., Case Western Reserve University, 1974; M.A., Miami University, 1976.

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Searcy, E. Dale (1976), Law, Professor - B.S., General Motors Institute, 1959; J.D., Indiana University, 1963; LL.M., New York University, 1966. Segalewitz, Scott I. (2000), Engineering Technology, Professor -
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Seielstad, Andrea M. (1996), Law, Professor - A.B., Princeton
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Sexton, Maureen (2005), English, Lecturer - B.A., University of Dayton, 1995; M.A., 2002.
Shaw, Lori E. (1988), Law, Professor of Lawyering Skills - B.S., University of Dayton, 1983; J.D., 1987.
Shiner, Erin W. (1993), Counseling Center, Administrative - B.A., University of Denver, 1981; M.A., Bowling Green State University, 1984; Ph.D., 1987.
Sidhu, Sukhjinder S. (1992), Mechanical and Aerospace Engineering, Professor - B.S., Osmania University, 1987; M.S., University of Illinois, 1991; Ph.D., 1992.
Sievers, David A. (2009), Music, Artist-in-Residence - B.M.A., Washington State University, 1994; M.M.A., Boise State University, 1996; D.M., Washington State University, 2009.
Simon, Julie (2010), Mathematics, Lecturer - B.A., Wellesley College, 1983; Ph.D., University of Illinois, 1989.
Singh, Amit (2007), Biology, Assistant Professor - B.S., H.P. University, 1988; M.S., Devi Ahilya University, 1990; Ph.D., 1995.
Sink, Damon W. (2001), Music, Visiting Assistant Professor - B.M., University of Cincinnati, 1992; M.M., 1995.
Skill, Thomas D. (1984), Communication, Professor - B.A., State
University of New York at Buffalo, 1978; M.A., 1980; Ph.D., 1984.
Slade, R. Andrew (2003), English, Assistant Professor - B.A., Seattle
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Slater, Jillian M. (2011), Roesch Library, Assistant Professor - B.A., California State University, 2004; M.L.S., San Jose State University, 2009.

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Snyder, Linda J. (1989), Music, Professor - B.M., Miami University, 1970; M.M., University of Illinois, 1972; D.M.A., 1982.
Song, Yong (2008), Physics, Lecturer - B.S., University of Science and Technology of China, 1996; M.S., 1999; M.S., University of Cincinnati, 2001; Ph.D., 2008.
Sparks, John R. (1995), Management and Marketing, Associate Professor - B.B.A., West Texas State University, 1988; Ph.D., Texas Tech University, 1995.
Sritharan, R. (1999), Computer Science, Professor - B.Tech., Indian University of Technology, 1985; M.S., Vanderbilt University, 1988; Ph.D., 1995
Steinlage, Lester J. (2000), Mathematics, Lecturer - B.S., University of Dayton, 1965; M.S., 1969.
Stevens, Yvonne R. (2012), English, Lecturer - B.S., Ohio University, 2004; M.A., University of Dayton, 2009;
Strain, Margaret M. (1995), English, Associate Professor - B.A., Bellarmine College, 1977; M.A., University of Louisville, 1986; Ph.D., 1995
Street, Donna L. (2002), Accounting, Professor, AI \& Marcie Mahrt Chair in Accounting - B.B.A., East Tennessee State University, 1981; M.Acc., University of Tennessee, 1983; Ph.D., 1987
Street, P. Eric (1992), Music, Professor - B.M., Cornell College, 1975; M.M., Indiana University, 1977; D.M., 1985.

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Sullivan, Diane M. (2006), Management and Marketing, Associate Professor - B.S.B.A., University of Central Florida, 1997; M.B.A.; (cand.) Ph.D., 2006.
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Thompson, Daniel Patrick Speed (2012), Religious Studies, Associate Professor - B.A., University of Notre Dame, 1986; A.M., The University of Chicago, 1987; Ph.D., The University of Chicago, 1998.
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), Library, 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. Thompson-Miller, Ruth K. (2011), Sociology, Anthropology and Social Work, Assistant Professor - B.S., University of Florida, 2002; M.S., Texas A\&M University, 2004; Ph.D., Texas A\&M University, 2011. 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.
Tillman, Beverly A. (1990), Teacher Education, Associate Professor B.S., Miami University, 1974; M.A., University of Michigan, 1975; Ph.D., Ohio State University, 1992.
Titlebaum, Peter J. (1996), Health and Sport Science, Associate Professor - B.S., State University of New York at Brockport, 1982; M.S., Ohio State University, 1985; Ph.D., Temple University, 1993.
Todd, Adam G. (2010), Law, Associate Professor of Lawyering Skills B.A., Brown University, 1983; J.D., Rutgers School of Law, 1990. Toubia, Elias A. (2011), Civil and Environmental Engineering and Engineering Mechanics, Assistant Professor - B.S., Lebanese University, 2000; M.S., University of Dayton, 2003; Ph.D., University of Dayton, 2008.
Trick, Kimberly A. (1994), Chemistry, Lecturer - B.Ch.E., University of Dayton, 1984; M.S., 1988; Ph.D., 1994.
Trollinger, Susan (2007), English, Associate Professor - B.A., University of Wisconsin, 1986; M.A., University of Pittsburgh, 1988; Ph.D., 1995. Trollinger, William (1998), History, Professor - B.S., Bethel College, 1977; M.S., University of Wisconsin, 1980; Ph.D., 1984.
Tsen, Hsuan (2012), Visual Arts, Lecturer - B.A., Hampshire College, 1998; Ph.D., Stanford University, 2011.
Tsonis, Panagiotis A. (1989), Biology, Professor - B.S., Patras
University, 1977; M.S., Nagoya University, 1980; Ph.D., 1983.
Turner, Daniel A. (2012), Chemistry, Visiting Assistant Professor - B.A., Capital University, 2006; Ph.D., The Ohio State University, anticipated August 2012.

Uhlman, Todd (2009), History, Lecturer - B.A., Indiana University, 1998;
Ph.D., Rutgers University, 2008.
Untener, Joseph A. (1987), Engineering Technology, Professor - B.M.E., General Motors Institute, 1984; M.S., Purdue University, 1985; Reg. Prof. Engr.
Usman, Mohammad (2007), Mathematics, Assistant Professor - M.S., Ohio University, 2001; M.A., 2001; Ph.D., University of Cincinnati, 2007. Vanderburgh, Paul (2004), Health and Sport Science, Professor - B.S., United States Military Academy, 1982; M.A., University of Georgia, 1988; Ed.M., Columbia University, 1991; Ed.D., 1992. Van Zandt, Victoria (2005), Law, Associate Professor of Lawyering Skills - B.A., Ohio State University, 1991; J.D., University of Dayton, 1996. Valenzano, Joseph M. III (2011), Communication - B.A., Providence College, 2000; M.A., University of Maine, 2002; Ph.D., Georgia State University, 2006.
Velasquez, Ernesto (2009), Philosophy, Assistant Professor - B.A., University of Illinois at Chicago, 1998; M.A., University of Hawaii at Manoa, 2000; Ph.D., State University of New York at Buffalo, 2009. Venard, Paul (2007), Law Library, Assistant Professor - B.S., John Carroll University, 1997; J.D., Kent State University, 2001; M.L.I.S., 2005.

Ventura, Renato (2010), Languages, Assistant Professor - B.A., Trinity College, 2003; M.A., University of Connecticut, 2006; Ph.D., University of Connecticut, 2011.
Villa, Laura (2010), Languages, Assistant Professor - B.A., University of Ovideo, 2003; M.A., City University of New York, 2004.
Voevodin, Andrey A. (1998), Materials Engineering, Adjunct Professor Dip. Met. Engr., Tula Politechnical Institute, 1986; Ph.D., 1991. Voracheck, Laura (2007), English, Assistant Professor - B.A., Trinity University, 1991; M.A., University of Texas-Houston, 1995; Ph.D., University of Wisconsin, 2004.
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Chair in Ladar and Free Space Optical Communications - M.S., Moscow State University, 1974; Ph.D., 1977; D.Sc., Lomonosov Moscow State University, 1989.
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Professor - B.A., National Taiwan University, 1982; M.B.A., University of North Carolina, 1989; Ph.D., 1994.
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Watkins, David (2010), Political Science, Assistant Professor - B.A., Western Washington University, 1997; M.A., University of Washington, 2000; Ph.D., 2008.
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Welkener, Michele (2008), Counselor Education and Human Services, Assistant Professor - B.F.A., Miami University, 1990; M.A., 1992; Ph.D., 2000.

Wells, Charles E. (1984), Management Information Systems, Operations Management, and Decision Sciences, Professor - A.B., Harvard University, 1976; M.B.A., Miami University, 1977; Ph.D., University of Cincinnati, 1982.
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Westendorf, Thomas J. (1982), Office of the Registrar, Administrative B.S., University of Dayton, 1978; M.B.A., 1986.

Whisnant, Rebecca S. (2003), Philosophy, Associate Professor - B.A., Oberlin College, 1989; M.A., University of North Carolina, 1993; Ph.D., 2002.

Whitaker, Jayne K. Matlack (1993), Visual Arts, Associate Professor - B.S., University of Delaware, 1983; M.F.A., Tyler School of Art of Temple University, 1993.
Whitaker, Joel A. (1993), Visual Arts, Professor - B.F.A., University of Montevallo, 1985; M.F.A., Florida State University, 1988.
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Whitney, Thomas J. (1988), Civil and Environmental Engineering and Engineering Mechanics, Associate Professor - B.M.E., University of Dayton, 1986; M.M.E., University of Delaware, 1988; Ph.D., University of Dayton, 2003.
Wilbers, Timothy A. (1983), Visual Arts, Associate Professor - B.A.Ed., Ohio State University, 1972; M.A., 1974; M.F.A., Southern Illinois University, 1981.
Wilhoit, Stephen W. (1988), English, Associate Professor - B.A., University of Kentucky, 1980; M.A., University of Louisville, 1983; Ph.D., Indiana University, 1988.
Wilkens, Robert J. (1999), Chemical and Materials Engineering,
Professor - B.C.M.E., University of Dayton, 1992; M.S. 1993; Ph.D., Ohio University, 1997.
Williams, Martha L. (2006), Languages, Lecturer - B.A., State University of New York, 1965; M.S., Wright State University, 1985; M.A., Georgia State University, 1975.
Williams, P. Kelly (1973), Biology, Professor - B.A., University of Texas, 1966; M.S., University of Minnesota, 1969; Ph.D., Indiana University, 1973.

Williams, Thomas M. (2009), Biology, Assistant Professor - B.S., Eastern Michigan University, 1999; M.S., University of Michigan, 2003; Ph.D., 2004.
Winning, Thomas E. (1999), School of Business Administration, Executive-in-Residence - B.S., Ohio State University, 1971; M.B.A., University of Dayton, 1976.
Wolff, Robert L. (1958), Engineering Technology, Professor - B.S., University of Dayton, 1959; M.B.A., Xavier University, 1967. Work, Nicola (2009), Languages, Assistant Professor - B.A., Wayne State University, 1998; M.A., 2000.
Wright, David J. (1996), Biology, Associate Professor - B.S., University of Sheffield, England; Ph.D., University of Iowa, 1989.

Wright, Shirley J. (1993), Biology, Associate Professor - B.S., Loyola University, Chicago, 1981; M.S., 1983; Ph.D., University of lowa, 1981. Wu, Shuang-Ye (2004), Geology, Visiting Assistant Professor - B.A., Nanjing University, 1991; M.A., Beijing Foreign Study University, 1994; M.Phil., Cambridge University, 1996; Ph.D., 2000.

Wulff, Susan M. (2012), Physician's Assistant Program, Clinical Faculty - Associate Degree, Kettering College of Medical Arts, 1969; B.S., Kettering College of Medical Arts, 1999; M.S., Arizona School of Heath Sciences, 2002.
Wynn, Donald (2007), Management Information Systems, Operations Management, and Decision Sciences, Assistant Professor - B.A., University of Tennessee, 1988; M.B.A., Middle Tennessee State University, 1998.
Yao, Zhongmei (2009), Computer Science, Assistant Professor - B.E., Donghua Unviersity, 1997; M.S., Louisiana Tech University, 2004.
Yang, Aimei (2012), Communication, Assistant Professor - B.A., Nankai University, 2005; M.A., Nankai University, 2007; Ph.D., University of Oklahoma, 2011.
Yengulalp, Lynne (2009), Mathematics, Assistant Professor - B.S., Miami University, 2001; M.S., 2003.
Yocum, Sandra (1992), Religious Studies, Associate Professor - B.A., University of Oklahoma, 1976; Ph.D., Marquette University, 1987.
Yoder, Donald D. (1989), Communication, Associate Professor - B.S., Iowa State University, 1973; M.A., University of Nebraska-Lincoln, 1975; Ph.D., Ohio State University, 1982.
Young, Pamela R. (2011), Educational Leadership, Assistant Professor - B.S., Bowling Green State University, 1974; M.S., Mansfield State College, 1977; Ph.D., University of Dayton, 2002.
Zabarnick, Steven S. (1988), Mechanical and Aerospace Engineering, Adjunct Professor - B.S., State University of New York at Binghamton, 1980; Ph.D., Pennsylvania State University, 1984.
Zamierowski, Edward E., S.M. (1974), Fitz Center for Leadership in Community, Administrative - B.S.E., University of Dayton, 1955; M.S., Ohio State University, 1960; Ph.D., University of Nairobi, 1973.
Zhan, Qiwen (2002), Electro-Optics, Professor - B.S., University of Science and Technology of China, 1996; M.S.E.E., University of Minnesota, 2000; Ph.D., 2002.
Zhang, Ting (2009), Economics and Finance, Assistant Professor - B.A., Shanghai International Studies University, 1994; M.B.A., University of Northern Iowa, 2002; M.Acc., 2003; M.S.F., Clark University, 2005. Zink, Julie (2006), Law, Professor of Lawyering Skills - B.A., Wright State University, 1996; J.D., University of Dayton, 1999.
Zois, Catherine J. (1998), Psychology, Associate Professor - B.S., University of Illinois, 1992; M.A., Wayne State University, 1995; Ph.D., 1997.

Zukowski, Angela Ann, M.H.S.H. (1979), Religious Studies, Professor B.A., University of Dayton, 1974; M.A., 1978; D.Min., United Theological Seminary, 1988.

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Associate Dean for Collections and Fred W. Jenkins Operations
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Claudette M. Groeber
Jon J. Borgwardt

Kathleen R. Wisenbach
D. Kiefer Campbell

Matthew E. Willenbrink
Pamela L. Gregg

## Name

Crystal C. Sullivan
Kelly Adamsont

Allison Leigh

Kathy Sales

Mike Bennett
Kelly Bohrer

| Campus Minister | Colleen Brown |
| :--- | :--- |
| Campus Minister | Maria O. Burkett |
| Campus Minister | Gerald Chinchar, S.M. |
| Campus Minister | Teri Dickison |
| Campus Minister | Bridget Ebbert |
| Campus Minister | Lauren Farrell |
| Campus Minister | Katrina Hamilton |
| Campus Minister | Rev. LaKendra Hardware, Ph.D. |
| Campus Minister | Linda L. Jackson, O.P. |
| Campus Minister | Steve Joebgen |
| Campus Minister | Michelle Khawam |
| Campus Minister | Terri Lauer |
| Campus Minister | Jen Morin Williamson |
| Campus Minister | Katie Mathews |
| Campus Minister | Elizabeth Montgomery |
| Campus Minister | Mary Neibler |
| Campus Minister | James Pera |
| Campus Minister | Thomas Pieper, S.M. |
| Campus Minister | Krystle Powell |
| Campus Minister | Kathleen Rossman, O.S.F. |
| Campus Minister | Logan Rudemiller |
| Campus Minister | Colleen Ryan |
| Campus Minister | Sue Terbay |

finance and administrative services

| Title | Name |
| :--- | :--- |
| Vice President for Finance and | Thomas E. Burkhardt |
| Administrative Services |  |
| Controller | Angela K. Buechele |
| Internal Auditor | Vacant |
| Assistant Vice President and | Philip G. Chick |
| Treasurer |  |
| Assistant Treasurer and Tax | Ann Garcia |
| Manager |  |
| Assistant Vice President for <br> Finance | Thomas J. Weckesser |
| Director, Student Accounts and <br> Bursar | David Necessary |
| Director, Purchases and Business |  |
| Services | Ken R. Soucy |
| Vice President for Facilities | Beth H. Keyes |
| Management | Richard G. Perales |
| Director, University Campus <br> Planning | John E. Hart |
| Director, Legal Affairs and | Susan Sexton |
| University Counsel | Joyce M. Carter |
| Virector, Institutional Reporting | Paula H. Smith |
| Resources |  |
| Director, Dining Services | Bruce E. Burt |
| Executive Director, Public Safety |  |
| and Chief of Police |  |

## Human Resources

## Title

Vice President for Human Resources

| Administrative Associate to the | Kathryn A. Henry |
| :--- | :--- |
| Vice President |  |
| Manager, Human Resources |  |
| Operations |  |$\quad$ Steven D. Perucca | Manager, Learning and |
| :--- |
| Development |$\quad$ Celine M. O'Neill

HRIS Analyst

## student development

## Title

Vice President of Student Development
Assistant to the Vice President
Vice President of Student
Development and Dean of
Students
Assistant Vice President of Student Cari S. Wallace Development
Assistant Dean of Students and Director of Housing and Residence
Life
Assistant Director of Housing and Residence Life, First-Year Experience
Assistant Director of Housing and Residence Life, Upperclass Living
Assistant Director of Housing and Residence Life, Operations
Associate Director of Housing and Residence Life, Assignments
Assistant Dean of Students and Director of Community Standards and Civility
Assistant Director, Community
Standards and Civility
Assistant Dean of Students and Director, Multicultural Affairs
Associate Director, Multicultural
Affairs and Leadership Initiatives
Assistant Director, Student
Services
Director, Student Life and Kennedy Amy D. Lopez-Matthews Union
Assistant Director, Programming Amber Sibley

| Assistant Director, Organizations and Events | Vacant | Assistant to the Vice President/ Director of Athletics | Debbie Seaman |
| :---: | :---: | :---: | :---: |
| Assistant Director, KU Operations | Leanard A. Presock | Associate Vice President of | Vacant |
| Night Operations Manager | Allison Moon | Athletics |  |
| Assistant Director, Conference and Business Services | Gwyn F. Stump | Assistant to the Associate Vice President of Athletics | Vacant |
| Associate Director, Scheduling and Events | Amy V. Lee | Assistant Director, Athletics/ Director of Compliance | Neil Sullivan |
| Assistant Director, Summer | Christopher Johnson | Manager of Compliance | Angie Petrovic |
| Conferences and Information Technology |  | Associate Director, Athletics/ Director of Athletic Performance | Joe Owens |
| Assistant Director, New Student Programs | Melissa T. Flanagan | Senior Associate Director, Athletics/Director of UD Arena and | Tim O'Connell |
| Director, Greek Life and | Kevin M. Crane | Arena Sports Complex |  |
| Leadership Programs |  | Director, Men's Basketball Season | Gary McCans |
| Assistant Director, Greek Life and | Vacant | Tickets |  |
| Leadership Programs |  | Senior Associate Director, | Dave Harper |
| Assistant Vice President of Student Development and Director of the Counseling Center | Steven D. Muller | Athletics/Development Senior Associate Director, Athletics/Sports Program | Mike Kelly |
| Director, Campus Recreation | Vacant | Administration |  |
| Associate Director, Campus Recreation | David B. Ostrander | Assistant Director, Athletics/ Frericks Center Equipment and | Ken Keck |
| Associate Director, Campus | Donn W. Shade | Transportation |  |
| Recreation |  | Academic Counselor | Elizabeth Flach |
| Director, Student Health | Mary P. Buchwalder, M.D. | Academic Counselor | Vera Gomes |
| Assistant Dean of Students and | Clare Dever | Director, Sports Information | Doug Hauschild |
| Director, Community Wellness Services |  | Assistant Director, Communications | Seth liames |
| Associate Director, Counseling Center | Rebecca Cook | Assistant Director, Communications/Publications | Brian Karst |
| Assistant Director, Counseling Center | Erin Shiner | Assistant Director, Communications | Krystal Warren |
| Director, Communications and Community Relations | Edel M. Jesse | Assistant Director, Manager or Multimedia Marketing | Michael LaPlaca |
| Director, Information Technology | Brian S. Turner | Assistant Director, Athletics/ | Megan Winner |
| Technology Support Specialist | Chris Wagner | Business Manager/Senior Woman |  |
| Manager, Finance and Operations | Daniel J. Craighead | Administrator |  |
| university advancemen |  | Assistant Athletics Business Manager | Margaret Gantt |
| Title | Name | Basketball Strength \& Conditioning | Paul Ivkovich |
| Vice President for University | Deborah A. W. Read | Coach |  |
| Advancement |  | Strength \& Conditioning Coach | Mark Thobe |
| Executive Assistant to the Vice | Karla T. Brooks | Head Baseball Coach | Tony Vittorio |
| President |  | Associate Head Baseball Coach | Todd Linklater |
| Associate Vice President for | Teresa J. Rizvi | Mean's Head Basketball Coach | Archie Miller |
| University Communications |  | Assistant Coaches | Allen Griffin, Kevin Kuwik, Tom |
| Associate Vice President for | James F. Brothers |  | Ostrom |
| Development |  | Basketball Operations Coordinator | Bill Comar |
| Assistant Vice President for Constituent Relations | Joyce E. Dean | Assistant Coordinator, Basketball Operations | Eric Farrell |
| athletic programs and | facilities | Women's Head Basketball Coach | Jim Jabir |
| Title | Name | Assistant Coaches | Adeniyi Amadou, Angie Russell, Chris Vozab |
| Vice President/Director of Athletics | Tim Wabler | Basketball Operations Coordinator | Amanda Fischer |
|  |  | Men's Cross Country Coach | Rich Davis |


| Women's Cross Country Coach | Sarah Hinkley |
| :--- | :--- |
| Women's Head Track \& Field <br> Coach | Vacant |
| Head Football Coach | Rick Chamberlin |
| Assistant Coaches | Landon Fox, Chris Ochs, Dave |
|  | Whilding |
| Men's Head Golf Coach | Gip Hoagland |
| Women's Head Golf Coach | Sally Kosters |
| Women's Head Rowing Coach | Mike Wenker |
| Men's Head Soccer Coach | Dennis Currier |
| Assistant Coaches | Gabe Hall, Richardo Lara |
| Women's Head Soccer Coach | Mike Tucker |
| Assistant Coaches | Eric Golz, Tiffany Hansen |
| Head Softball Coach | Cara Clark LaPlaca |
| Assistant Coach | Sarah Harman |
| Men's \& Women's Tennis Coach | Eric Mahone |
| Head Volleyball Coach | Kelly Sheffield |
| Assistant Coaches | Matt Affolder, Brittany Dildine |
| Manager of Sports Medicine | Nate Seymour |
| Head Trainer | Steve Foster |
| Assistant Trainer | Jaime Potter |
| Equipment \& Awards Manager | Tony Caruso |
| Faculty Athletics Representative | J. Michael O'Hare, Ph.D. |

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Martin, Richard W. (1976), Research Engineer - B.S., Ohio University, 1970; B.B.A., 1972.
Martinez, Liliana A. (2009), Biofuel Lab Manager/Engineer - B.S., Pontificia Universidad Javeriana, 2001; M.S., University of Puerto Rico, 2008.

McCabe, Michael V. (1993), Vice President for Research and Executive Director, Research Institute (UDRI) - B.S., Capital University, 1971; M.S., University of Cincinnati, 1973; Ph.D., 1976; M.B.A., 1980.
McCaleb, Robert F. (2008), Systems Engineer.
McCray, Daniel B. (1977), Senior Research Materials Engineer - B.S., Wright State University, 1995; M.S., University of Dayton, 1997.
McGuinness, Christopher D. (2009), Associate Image Processing Engineer- B.S., University of Dayton, 2009.

McKellar, Bernard R. (2007), Research Scientist - B.S., Southern Methodist University, 1974; Ph.D., University of Texas, 1987.
Meckstroth, Christopher M. (2010), Senior Research Engineer - B.S., University of Cincinnati, 2007; M.S., 2010.
Miller, Barbara A. (2006), Research Scientist - B.S., Wright State University, 2001; M.S., Clemson University, 2006.

Mitchell, Stephen C. (2009), Group Leader-Composites Manufacturer \& Technical Transition - B.S., Indiana Institute of Technology, 1969.

Mooers, Ryan D. (2010), Associate Research Engineer - B.S., Iowa State University, 2009.

Mooney, Thomas J. (2008), Research Engineer - B.S., State University of New York at Buffalo, 1986.

Moore, Justin P. (2008), Associate Research Chemist - B.S., Wright State University, 2000.

Morgan, Alexander B. (2005), Group Leader-Senior Research Engineer B.S., Virginia Military Institute, 1994; Ph.D., University of South Carolina, 1998.

Morton, Scott A. (2009), Senior Research Engineer - B.S., Parks College of St. Louis University, 1985; M.S., Air Force Institute of Technology, 1989; Ph.D., 1996.

Mueller, Susan S. (2006), Research Biologist - B.S., Wright State University, 1987.

Murray, Paul T. (1982), Senior Research Chemist - B.S., University of Cincinnati, 1974; Ph.D., University of North Carolina, 1979.

Nalladega, Vijayaraghava (2010), Post Doctorate - B.S., Kakatiya University, 2002; M.S., University of Dayton, 2005; Ph.D., 2009.

Nguyen, Hung M. (2000), Associate Research Information Technology Professional - B.S., Michigan State University, 1996.

O'Connor, Michael P. (2008), Group Leader-Senior Image Processing Engineer - B.S., University of Dayton, 1993.

Olding, Robert B. (2001), Senior Research Systems Engineer - B.E.E., University of Dayton, 1977; M.C.S., 1985.

Olson, Steven E. (1992), Senior Research Engineer - B.S., University of Dayton, 1991; M.S., 1993; Ph.D., 2001.

Ouchen-Bouchendouka, Fahima (2011), Research Engineer- B.S., University of Setef, 1991; M.S., University of Montpellier, 1992; Ph.D., 1996.

Ouchen-Bouchendouka, Fahima (2011), Research Engineer - B.S., University of Setef, 1991; M.S., University of Montpellier, 1992; Ph.D., 1996.

Pacey, Gilbert E. (2010), Senior CBRNE Scientist - B.S., Bradley University, 1974; Ph.D., Loyola University Chicago, 1979.

Patton, Steven T. (1999), Acting Group Leader-Senior Research Scientist - B.A., Wittenberg University, 1988; M.S., Ohio State University, 1994; Ph.D., 1998.

Petry, LeAnne (1989), Research Chemist - B.S., University of Dayton, 1995; M.S., 2002; M.S., 2003.

Pfeiffer, Phillip E. (2010), Software Engineer- B.S., University of Dayton, 2006; M.S., 2011.

Phelps, Andrew W. (1990), Senior Research Scientist - B.S., Pennsylvania State University, 1983; M.S., 1987; Ph.D., 1990.

Phillips, Peter L. (2008), Associate Research Engineer - B.S., University of Dayton, 2008.

Pierce, Jennifer L. (1998), Research materials Engineer- B.S., Wright State University, 1995; M.S., 1998.
Pierce, Jennifer L. (1998), Research Materials Engineer - B.S., Wright State University, 1995; M.S., 1998.

Pike, Megan N. (2011), Associate Research Engineer - B.S., University of Dayton, 2009.

Pinnell, William B. (1988), Acting Group Leader-Senior Failure Analysis Engineer - B.S., University of Dayton, 1988.

Poormon, Kevin L. (1987), Group Leader-Senior Research Engineer B.S., University of Dayton, 1987; M.S., 1988.

Porter, William J., III (1990), Senior Research Engineer - B.A., Miami University, 1988; M.S., University of Dayton, 1990.

Powar, Nilesh U. (2003), Research Software Engineer - B.S., Bombay University, 1999; M.S., Wright State University, 2002.

Price, William A. (1977), Research Engineer - B.T., University of Dayton, 1981.

Quill, Laurie L. (1992), Group Leader-Distinguished Research Human Factors Analyst - B.A., Ohio Wesleyan University, 1981; M.A., University of Dayton, 1994.

Rafferty, Daniel P. (2008), Sensor Researcher - B.S., Pennsylvania State University, 2000.

Reinert, James D. (2011), Associate Research Engineer- B.S., University of Dayton, 2010.

Rice, Brian Patrick (1986), Division Head-Multiscale Composites and Polymers - B.S., Ohio State University, 1986; M.S., University of Dayton, 1990.

Riggin, Kelly R. (2012), Software Team Leader- B.S., Purdue University, 1985.

Roach, Kevin P. (1993), Senior Research Engineer - B.S., University of Maryland, 1988.

Robertson, Darrel K. (2009), Research Engineer - B.S., Leicester University, 1995; M.S., Massachusetts Institute of Technology, 1998; Ph.D., 2001.

Robota, Heinz J. (2009), Group Leader-Distinguished Research Chemist - B.S., University of California, Los Angeles, 1978; Ph.D., University of California, Berkeley, 1981.

Rondeau, Roger A. (1982), Group Leader-Senior Research Materials Engineer - B.S., Wright State University, 1983; M.S., University of Dayton, 1991.

Ruschau, John J. (1974), Division Head-Structural Integrity - B.S., University of Dayton, 1973; M.S., 1979.
Safriet, Sirina (2005), Research Scientist - B.S., King Mongkut's Institute of Technology, 1991; M.S., University of Akron, 1995; Ph.D., 1999.

Saliba, Susan S. (1986), Division Head-Nonstructural Materials - B.S., Auburn University, 1984; M.S., University of Dayton, 1986.

Samios, John E. (2012), Systems/Security/Network Engineer- B.S., University of Pittsburgh, 1985; M.S., University of Dayton, 1990.
Sathish, Shamachary (1996), Group Leader-Distinguished Research Engineer-B.S., Yuvaraja College, 1974; M.S., University of Mysore, 1976; Ph.D., 1984.

Schehl, Norman D. (1993), Research Engineer - B.S., University of Dayton, 1991; M.S., 1993.

Schindelholz, Joseph F. (2007), Senior Program Manager - B.S., University of Wisconsin, 1969; M.S., Webster University, 1987.

Schultek, Brian R. (2011), Associate Computer Engineer- B.S., University of Dayton, 2007.

Scott, Ollie L. (1986), Research Engineer - B.S., Wilberforce University, 1982; M.S., University of Dayton, 1997.

Scudder, Richard P. (2009), Director, Center for UAS Exploitation - B.S., University of Bridgeport, 1981; M.S. Naval War College, 2002.
Sebastian, James R. (1995), Research Engineer - B.M.E., B.E.E., University of Dayton, 1995; M.S., 1998.

Servaites, Jerome C. (2009), Research Scientist - B.S., University of Dayton, 1968; M.S., 1972; Ph.D., University of Illinois at UrbanaChampaign, 1976.

Shafer, Linda M. (2002), Senior Research Chemist - B.S., University of Akron, 1986.

Shen, Yuhui (2009), Senior Research Scientist - B.S., Dalian University of Technology, 1985; M.S., 1988.
Shin, Eunsung (2004), Post Doctorate - B.S., Hallym University, 1990; M.S., 1997; Ph.D., University of Dayton, 2004.

Shumaker, Joseph A. (2006), Research Engineer - B.S., Wilmington College, 2004; M.S., Wright State University, 2006.

Sidhu, Sukhjinder S. (1992), Division Head- Energy Technologies \& Materials- B.S., Osmania University, 1987; M.S., University of Illinois, 1991; Ph.D., 1992.

Sihn, Sangwook (1999), Senior Research Engineer - B.A., Seoul National University, 1990; M.S., Stanford University, 1992; Ph.D., 1997.
Simone, Kenneth C. (2008), Digital Systems Engineer - B.S., Southern Illinois University, 1982.

Skinn, Donald A. (1979), Senior Research Programmer - B.A., Ohio State University, 1975.
Smith, Francis R. (2005), Senior Research Engineer - B.S., Syracuse University, 1982; M.S., Air Force Institute of Technology, 1988.
Smith, Howard E. (2002), Senior Research Scientist - B.S., DePauw University, 1980; M.S., Cornell University, 1982; Ph.D., 1986.

Stipp, Ryan A. (2008), Associate Image Processing Engineer- B.S., Ohio State University, 2008.
Stonecash, T. Jared (2005), Composites Research Engineer - B.S., University of Dayton, 2003; M.S., 2005.
Stouffer, Scott D. (1996), Senior Research Engineer - B.S., Virginia Polytechnic Institute and State University, 1985; M.S., 1989; Ph.D., 1995.

Striebich, Richard C. (1986), Senior Research Engineer - B.S., University of Notre Dame, 1982; M.S., University of Dayton, 1993.

Strunks, Gregory A. (2007), Senior Research Engineer - B.S., University of Dayton, 1988; M.S., 1990; M.S., State University of New York at Albany, 2002.
Stumph, Herbert E. (2000), Research Engineer - B.M.E., University of Dayton, 1998; M.S., 2000.
Susoreny, Joseph A. (2010), Associate Chemical Engineer - B.S., Purdue University, 2010.

Sutter, Thomas M. (2012), Associate Research Engineer- B.S., University of Dayton, 2008.
Swindeman, Michael J. (2004), Senior Research Engineer - B.S., University of Tennessee, 1993; M.S., University of Illinois, 1995.

Szmulowicz, Frank (1978), Group Leader-Distinguished Research Physicist-B.S., Case Western Reserve University, 1971; M.S., 1973; Ph.D., 1976.

Tandon, Gyaneswar P. (1999), Group Leader-Distinguished Research Scientist - B.T., Indian Institute of Technology, 1981; M.S., Rutgers University, 1984; M.Phil., 1985; Ph.D., 1986.

Taylor, Kerry D. (2010), Aerospace Hub Development Director - B.S., University of Kentucky, 1980; B.S., University of South Florida, 1984; M.A., Central Michigan University, 1987; M.S., 1999.

Taylor, Philip H. (1985), Group Leader-Distinguished Research Scientist B.S., Oneonta State College, 1980; Ph.D., Pennsylvania State University, 1984.

Thomas, David K. (2009), Research Engineer - B.S., University of Dayton, 1976; M.S., Marshall University, 1988.

Thomas, Evan L. (2009), Materials Scientist - B.S., Southern University \& A\&M College, 2002; Ph.D., Louisiana State University, 2006.

Thomas, Ronald L. (1999), Internet/Programmer Analyst.
Tienda, Kevin A. (2011), Associate Research Engineer - B.S., Wright State University, 2010.
Toth, Douglas K. (1990), Research Lubricants Engineer - B.S., Southern Methodist University, 1987; M.S., Case Western Reserve University, 1989.

Tsao, Bang-Hung (1999), Group Leander-Distinguished Materials Research Scientist - B.S., National Cheng Kung University, 1980; M.S., Arizona State University, 1986; Ph.D., 1989.
Tsao, Victor (2009), Associate Research Software Engineer - B.S., University of Dayton, 2008.

Turri, William F. (2007), Group Leader-Image Processing Engineer - B.S., University of Dayton, 2000; M.S., 2002.

Vangsness, Marlin D. (1985), Senior Research Physicist - B.S., North Dakota State University, 1985.
Vehorn, Keith A. (2011), Associate Structural Analyst-
Vela, Russell (2011), RF Microwave Engineer- B.S., Texas Tech University, 2006; M.S., 2007.
Venkat, Narayanan (1999), Senior Research Polymer Scientist - B.S., University of Madras, 1971; M.S., Indian Institute of Technology, 1973; Ph.D., 1979.

Vicen, Nicholas P. (2007), Associate Image/Signal Processing Engineer B.S., University of Dayton, 2005; M.S., 2007.

Voevodin, Natalia N. (1999), Senior Research Scientist - B.S., Tula Polytechnical Institute, 1985; M.S., 1986; Ph.D., University of Dayton, 2002.

Vukelich, Sharon I. (2003), Group Leader-Distinguished Research Engineer - B.S., Michigan State University, 1974; M.S., University of Cincinnati, 1980.

Walker, David M. (2009), Associate Digital Systems Engineer - B.S., Wright State University, 2002; M.S., 2004.
Walters, Larrell B. (2003), Division Head-Sensor Systems - B.S., Bowling Green State University, 1978; M.S., Kent State University, 1985.

Walters, Molly R. (2011), Research Engineer- B.S., University of Dayton, 2003.

Webber, Frederick C. (2011), Associate Programming Engineer- B.S., Rose-Hulman Institute of Technology, 2007; M.S., Air Force Institute of Technology, 2009.

West, Zachary J. (2004), Research Engineer - B.S., Tri-State University, 2001; M.S., University of Dayton, 2004.

Whiting, Christofer E. (2011), Research Scientist- B.S., University of Minnesota, 1999; Ph.D., 2007.

Wicks, Michael C. (2011), Distinguished Researcher-RF Technology B.S.E.E., Rensselaer Polytechnic Institute, 1981; M.S.E.E., Syracuse University, 1985; Ph.D., 1995; M.A., 2000.

Williams, Theodore F. (1990), Group Leader-Senior Research Engineer B.S., University of Dayton, 1982

Willson, Jonathan S. (2010), Research Engineer - B.S., Wright State University, 2003.

Wittberg, Thomas N. (1976), Senior Research Physicist - B.S., University of Dayton, 1976

Wolf, James D. (1979), Group Leader-Senior Research Materials
Scientist - B.S., University of Dayton, 1979; M.S., 1982.
Workman, John M. (2010), Senior Research Materials Scientist - B.S., Miami University, 1971; M.S., University of Cincinnati, 1985; Ph.D., 1987; M.A., Wright State University, 1995

Yamada, Takahiro (1999), Senior Research Chemist - B.S., University of Osaka, 1985; M.S., 1987; M.S., University of New Haven, 1994; Ph.D., New Jersey Institute of Technology, 1999.

Yoon, Yuhchae (2006), Research Scientist - B.S., Yonsei University, 1996; M.S., 1998; M.S., Ohio State University, 2002; Ph.D., 2004.

Zabarnick, Steven S. (1988), Group Leader-Distinguished Research Chemist - B.S., State University of New York at Binghamton, 1980; Ph.D., Pennsylvania State University, 1984.

Zhang, Qiuhong (2011), Materials Scientist.
Zhou, Eric Guangming (2005), Research Engineer - B.S., China Textile University, 1986; M.S., Kansas State University, 1999.

## College of Arts and Sciences

Paul H. Benson, Dean
Donald L. Pair, Associate Dean
Donald J. Polzella, Associate Dean
John E. Erdei, Assistant Dean
Cynthia T. Shafer, Assistant Dean
Timothy A. Wilbers, Assistant Dean
The College of Arts and Sciences is a distinctive learning community that forms the vital center of the University of Dayton. In the finest tradition of liberal education, the College is committed to excellence in the discovery, integration, dissemination, and application of knowledge. The College delivers the University General Education Program and helps students to develop their competencies in written and oral communication, quantitative reasoning, and information literacy. Academic programs provide instruction in critical thinking and expression, social and cultural criticism, computation, scientific reasoning, the creative and performing arts, historical analysis, and religious and moral awareness. The College of Arts and Sciences takes as its mission the Marianist principle of educating the whole person and enabling all members of our learning community to fulfill their potential.

The faculty of the College of Arts and Sciences demonstrate connected learning and scholarship by integrating teaching, research, and service. They engage students from across the University in this process through traditional and innovative approaches to learning. The faculty understand that the principles of liberal education emerge not only from the classroom, studio, and laboratory, but also from the many resources the students have within their reach: advisement, mentoring; the campus ministry; social and professional clubs and societies; campus media and publications; fine arts events; and membership on departmental and campus-wide committees where students gain experience in working with others and contribute to the wider University community. Taken together, these dimensions of liberal education form the basis for lifelong intellectual, professional, and personal growth.
The College of Arts and Sciences affirms its commitment to the Catholic and Marianist tradition. In humanities and social science programs, in the physical and life sciences, and in the creative and performing arts, the College strives to ensure that its graduates are distinguished by their discernment and intellectual rigor, their broad base of learning, and their sense of moral responsibility. And through their participation in a vital learning community, the College ensures the graduates will be distinguished by their appreciation and respect for diversity, their commitment to service, and their ability to affect positively individual lives and the common good.

## Academic Programs

For detailed information on specific majors and minors, please visit the Academic Information section of the Bulletin.

The major is defined as a block of courses totaling at least 24 semester hours of upper-level work in a single discipline. Transfer students are required to take a minimum of 12 upper-level semester hours in the major at the University of Dayton. Some departments may have additional requirements for transfer students. These additional requirements are defined specifically in the departmental listings.
Single-discipline and interdisciplinary minors are defined in the departmental listings. Transfer students must take a minimum of 6 upper-level semester hours in the minor at the University of Dayton. Some departments may have additional requirements for transfer
students. These additional requirements are defined specifically in the departmental listings.

## The Bachelor of Arts is offered in:

- American Studies (p. 116)
- Art History (p. 250)
- Chemistry (p. 126)
- Communication (p. 132)
- Criminal Justice Studies (p. 143)
- Economics (p. 146)
- English (p. 149)
- French (p. 181)
- German (p. 181)
- History (p. 161)
- Human Rights (p. 221)
- International Studies (p. 167)
- Languages (p. 181)
- Mathematics (p. 191)
- Music (p. 198)
- Philosophy* (p. 212)
- Political Science (p. 221)
- Psychology (p. 229)
- Religious Studies (p. 233)
- Sociology* (p. 239)
- Spanish (p. 181)
- Theatre (p. 246)
- Visual Arts (p. 248)
- Women's and Gender Studies (p. 259)
* Major programs offered in India in conjunction with the Marianists.


## The Bachelor of Science is offered in:

- Applied Mathematical Economics (p. 192)
- Biochemistry (p. 128)
- Biology (p. 119)
- Chemistry (p. 127)
- Computer Information Systems (p. 140)
- Computer Science (p. 140)
- Environmental Biology (p. 121)
- Environmental Geology (p. 157)
- Geology (p. 158)
- Mathematics (p. 191)
- Medicinal-Pharmaceutical Chemistry (p. 127)
- Physical Science (p. 217)
- Physics (p. 218)
- Physics-Computer Science (p. 218)
- Predentistry (p. 227)
- Premedicine (p. 228)
- Psychology (p. 230)

Other programs leading to the bachelor's degree:

- Art Education (B.F.A.) (p. 250)
- Fine Arts (B.F.A.) (p. 251)
- General Studies (B.G.S.) (p. 156)
- Graphic Design (B.F.A.) (p. 251)
- Music Composition (B.Mus.) (p. 200)
- Music Education (B.Mus.) (p. 198)
- Music Performance (B.Mus.) (p. 203)
- Music Therapy (B.Mus.) (p. 203)
- Photography (B.F.A.) (p. 252)


## Established Interdisciplinary Majors

American Studies (p. 116), Criminal Justice Studies (p. 143), International Studies (p. 167), Premedicine (p. 228), Predentistry (p. 227), and Women's and Gender Studies (p. 259) are present examples of established interdisciplinary majors. Such programs are established by interdisciplinary committees and administered by the program directors.

## Individually Designed Interdisciplinary Majors

Students demonstrating extraordinary interest, special skills or needs, and sound academic status may initiate individually designed majors. Students carry the responsibility to find a faculty mentor or advisor for such majors. All University and College requirements for the Bachelor of Arts or Bachelor of Science degree must be fulfilled. The degree received will be a Bachelor of Arts or Science in Interdisciplinary Studies. Candidacy for the Bachelor of Arts or Science in Interdisciplinary Studies must be declared no later than the last semester of the junior year. Long-range plans for such majors must be submitted to the appropriate chairpersons and the dean for final approval. Plans may be altered with appropriate supporting rationale and the approval of the chairperson and dean.

## General Requirements for all Bachelor of Arts Programs

A minimum of 124 semester hours of approved coursework must be presented for the B.A. At least 48 semester hours must be completed at the 300-400 level. For limitations on credit and restrictions on courses, consult the chairperson or the dean. No more than 45 hours of the minimum 124 hours may be completed in a student's major discipline.

## Introduction to the University

In the first semester, students take a course that introduces them to the University and to their major field of study. Undeclared students take specific sections of this course.

## Major Concentration

Most major programs require between 30 and 45 semester hours. For department or program requirements, consult program schedules or the department chairperson or program director.

## Liberal Studies Curriculum

Every student will complete the Liberal Studies Curriculum. This Curriculum provides students with a breadth of study and experiences in the humanities, the creative and performing arts, the social sciences, and the natural sciences. It complements specialized study in a major, presupposes the University General Competencies Requirements, and ensures completion of the Humanities Base and a Thematic Cluster through completion of the General Education Requirements. Where appropriate, credits in the Liberal Studies Curriculum may apply to other requirements but no more than six hours may be in the departmental major concentration. The Liberal Studies Curriculum includes:

## Philosophy and Religious Studies

Students complete 12 semester hours including a Humanities Base course in philosophy, a Humanities Base course in religious studies and
two additional General Education approved courses in philosophy and/or religious studies. ${ }^{1}$

## History

Students complete 6 semester hours including a Humanities Base course and one additional General Education approved course in historical study. ${ }^{1}$

## Literature

Students complete 3 semester hours in literature selected from a list of approved courses. ${ }^{2}$

## Creative and Performing Arts

Students complete 3 semester hours in theory, appreciation, or history of visual arts, music, or theater selected from a list of approved courses; or complete 3 semester hours in production and performance selected from a list of approved courses. ${ }^{3}$

## L2 Proficiency:

(Proficiency in a language other than English) Students demonstrate basic practical communication in a language other than English in one of three ways:

1. Students may choose to demonstrate proficiency equivalent to the completion of the 201 level by examination (Zero semester hours).

## or

2. Students may choose to demonstrate proficiency equivalent to the completion of the 141 level by examination, and one of the following four sub-options matching the language course at the 141 level (Zero to three semester hours):
a. 201 level language course
b. Approved study abroad/intercultural experience
c. Approved service learning experience
d. Approved Contextual Course ${ }^{4}$
or
3. Students may choose to demonstrate proficiency by completion of a language course at the 141 level and any necessary prerequisites, and one of the following four sub-options matching the language course at the 141 level (four to eleven semester hours):
a. 201 level language course
b. Approved study abroad/intercultural experience
c. Approved service learning experience
d. Approved Contextual Course. ${ }^{4}$

No credit is awarded through the proficiency examination. The range of semester hours to complete the L2 requirement in Arabic, Chinese and Hindi is zero to twelve.

## Social Sciences

Students complete 12 semester hours including two courses at the introductory level from at least two different traditional disciplines:

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ECO 203 | Prin of Microecon | 3 |
| POL 101 | Global Politics | 3 |
| or POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych | 3 |
| SOC 101 | Prin of Sociology | 3 |
| or SOC 204 | Mod Social Problems |  |

One course at the 300-400 level in one of the disciplines in which an introductory course was taken, and one additional course from any of the traditional disciplines or from the list of courses approved for General Education social science. (Students in the E-11 program may take two approved courses in the School of Education). ${ }^{1}$

## Mathematics

Students complete 3 semester hours selected from courses in the Department of Mathematics (MTH 102, MTH 204, MTH 205 excluded).

## Natural Sciences

Students complete a sequence of 3 lecture courses with 2 accompanying laboratories in the Integrated Natural Science Sequence for a total of 11 semester hours. Students who wish to do more advanced study in science may complete 9 semester hours in science courses approved for majors in the departments of biology, chemistry, geology, and physics and 2 sem. hrs. of accompanying laboratories in lieu of the Integrated Natural Science Sequence.

| ${ }^{1}$ Students should consider using this area of study to help fulfill the general education Thematic Cluster requirement. A Thematic Cluster includes a minimum of three courses, each course selected from a separate area (Philosophy, Religious Studies, Historical Studies, Arts Studies, Social Science, and Natural Science). |  |  |
| :---: | :---: | :---: |
| ${ }^{2}$ Courses for Literature are as follows: |  |  |
| CLA 350 | Classcl Lit-Transltn | 3 |
| ENG 151 | Intro to Literature | 3 |
| ENG 203 | Maj British Writers | 3 |
| ENG 204 | Major Amer Writers | 3 |
| ENG 205 | Major World Writers | 3 |
| ENG 210 | Poetry | 3 |
| ENG 230 | Topics-Literature | 1-6 |
| ENG 301 | Survey-Early Eng Lit | 3 |
| ENG 302 | Survey-Later Eng Lit | 3 |
| ENG 305 | Survey-American Lit | 3 |
| ENG 306 | Surv-Continentl Lit | 3 |
| ENG 317 | Contemporary Poetry | 3 |
| ENG 319 | Contemporary Fiction | 3 |
| ENG 320 | Contemporary Drama | 3 |
| ENG 322 | Mastrpc-World Lit | 3 |
| ENG 323 | Lit-Christn Tradtn | 3 |
| ENG 324 | The Novel | 3 |
| ENG 325 | Science Fiction | 3 |
| ENG 326 | Sport \& Literature | 3 |
| ENG 327 | Studies-Populr Fictn | 3 |
| ENG 328 | Amer Nobel Authors | 3 |
| ENG 329 | Short Story | 3 |
| ENG 330 | Development of Drama | 3 |
| ENG 332 | Studies-Lit \& Film | 3 |
| ENG 333 | Images-Women in Lit | 3 |
| ENG 334 | Modern Men-Images | 3 |
| ENG 335 | African Amer Lit | 3 |
| ENG 336 | Gender in Fiction | 3 |
| ENG 337 | Studies-Folklore | 3 |
| ENG 338 | Images of Business | 3 | general education Thematic Cluster requirement. A Thematic Cluster includes a minimum of three courses, each course selected from a separate area (Philosophy, Religious Studies, Historical Studies, Arts Studies, Social Science, and Natural Science).

${ }^{2}$ Courses for Literature are as follows:

| ENG 339 | American Indian Lit | 3 |
| :---: | :---: | :---: |
| ENG 340 | Prison in Lit | 3 |
| ENG 343 | Lit of the Fifties | 3 |
| ENG 344 | Lit of the Sixties | 3 |
| ENG 345 | Colonl\&Postcolnl Lit | 3 |
| ENG 348 | Modern Irish Lit | 3 |
| ENG 350 | Eurpn Lit-Antiquity | 3 |
| ENG 351 | Eurpn Lit-Midl Ages | 3 |
| ENG 353 | Lit-Renaissance | 3 |
| ENG 354 | Lit-Enlightenment | 3 |
| ENG 355 | Lit-Romantic Age | 3 |
| ENG 356 | Eurpn Lit-19th Cent | 3 |
| ENG 357 | Eurpn Lit-Early 20th | 3 |
| ENG 358 | Contemp Lit-Europe | 3 |
| ENG 362 | Shakespeare | 3 |
| ENG 363 | Shakespear's Worlds | 3 |
| ENG 380 | Studies in Lit | 1-6 |
| ENG 383 | Tragic Dilemma | 3 |
| ENG 384 | Chrstnty\&Mod Poetry | 3 |
| ENG 385 | Rel \& Literature | 3 |
| ENG 405 | Chaucer | 3 |
| ENG 407 | Medieval English Lit | 3 |
| ENG 410 | Early Renaisnce Lit | 3 |
| ENG 414 | Later Renaisnce Lit | 3 |
| ENG 431 | Milton | 3 |
| ENG 433 | Stds-Neo-Classcl Lit | 3 |
| ENG 438 | English Romanticism | 3 |
| ENG 444 | Stds-19th Cn Eng Lit | 3 |
| ENG 448 | 20th Centr Britsh Lit | 3 |
| ENG 451 | American Romanticism | 3 |
| ENG 453 | Amer Realism\&Natrlsm | 3 |
| ENG 455 | 20th Centruy Amer Lit | 3 |
| ENG 482 | Modern Poetry | 3 |
| FRN 350 | French Lit In Trnsl | 3 |
| FRN 352 | Old World\&New (ENG) | 3 |
| FRN 360 | Explicatn De Textes | 3 |
| FRN 361 | Survey-French Lit I | 3 |
| FRN 362 | Survey-French Lit II | 3 |
| FRN 381 | History-Frn Cinema | 3 |
| FRN 450 | French Literature | 3 |
| FRN 452 | Old Wrld Meets New | 3 |
| GER 350 | German Lit In Trns | 3 |
| GER 361 | Survey of Ger Lit I | 3 |
| GER 362 | Survey of Ger Lit II | 3 |
| GER 450 | German Literature | 3 |
| ITA 361 | Survey-Italn Lit I | 3 |
| ITA 362 | Survey-Italn Lit II | 3 |
| SPN 350 | Hispnic Lit In Trans | 3 |
| SPN 361 | Survy-Spanish Lit I | 3 |
| SPN 362 | Survy-Spanish Lit II | 3 |
| SPN 363 | Surv Spn Am Lit I | 3 |
| SPN 364 | Surv Spn Am Lit II | 3 |


| SPN 450 | Spanish Literature | 3 |
| :--- | :--- | :--- |
| SPN 451 | Spn-Amer Literature | 3 |
| SPN 471 | TP:Spn Lit-20th Cent | 3 |
| SPN 472 | Spn Lit-20th Cent II | 3 |
| ${ }^{3}$ Courses for Creative and Performing Arts are as follows: |  |  |


| ASI 214 | Drama Kinesics | 1 |
| :---: | :---: | :---: |
| ASI 341 | Topics Arts Study | 1-3 |
| CMM 311 | Stds-Oral Perfrmnce | 3 |
| CMM 331 | Feature Writing | 3 |
| CMM 332 | Publication Design | 3 |
| CMM 333 | Free Lance Writing | 3 |
| CMM 341 | Audio Production | 3 |
| CMM 342 | Fund-Video Productn | 3 |
| CMM 343 | Scriptwrtng-Elec Med | 3 |
| CMM 344 | Multimda Dsgn/Prd I | 3 |
| CMM 351 | Public Speaking | 3 |
| CMM 442 | Adv Television Prod | 3 |
| CMM 444 | Multmedia Dsn\&Prd II | 3 |
| CMM 449 | Top-Electronic Media | 3 |
| ENG 282 | Intro-Writing Poetry | 3 |
| ENG 284 | Intro-Writng Fiction | 3 |
| ENG 286 | Intro-Writing Drama | 3 |
| ENG 308 | Intrmd Poetry Wkshop | 3 |
| ENG 310 | Intrmd Fiction Wkshp | 3 |
| ENG 312 | Adv Writing-Drama | 3 |
| ENG 331 | Studies in Film | 3 |
| ENG 382 | Mozart's Operas | 3 |
| MUS 110 | Fundamentals of Mus | 2 |
| MUS 111 | Theory of Music I | 2 |
| MUS 112 | Theory of Music II | 2 |
| MUS 113 | Aural Skills I | 2 |
| MUS 114 | Aural Skills II | 2 |
| MUS 115 | Music Theory Prac | 3 |
| MUS 116 | Music Theory Prac | 3 |
| MUS 191 | Voice Class | 2 |
| MUS 195 | Beg Guitar Class I | 1 |
| MUS 196 | Group Piano I | 1 |
| MUS 201 | Music in Concert | 3 |
| MUS 203 | Sights \& Sounds-Music | 3 |
| MUS 205 | Mus, Instrumnts \& Tech | 3 |
| MUS 295 | Beg Guitar Class II | 1 |
| MUS 301 | Mus Hist \& Lit I | 3 |
| MUS 302 | Mus Hist \& Lit II | 3 |
| MUS 303 | Intro World Music | 3 |
| MUS 304 | Hst of Amer Music | 3 |
| MUS 305 | Africn Amer Sac Mus | 3 |
| MUS 306 | History-Amer Jazz | 3 |
| MUS 307 | Dev Amer Poplr Song | 3 |
| MUS 309 | Opera Hst \& Lit | 3 |
| MUS 310 | Mozart's Operas | 3 |
| MUS 328 | Hst-Amer Musical | 3 |


| MUS 399 | Performance Studies | 1-2 |
| :---: | :---: | :---: |
| MUS 491 | University Orchestra | 1 |
| MUS 492 | Symphonic Wind Ens | 1 |
| MUS 493 | University Chorale | 1 |
| MUS 499 | Performance | 4 |
| THR 100 | Theatre Lab | 1-3 |
| THR 105 | Intro to Theatre | 3 |
| THR 201 | Basic Dance | 2-3 |
| THR 202 | Stage Makeup | 2 |
| THR 203 | Technical Productn | 3 |
| THR 251 | Beginning Tap Dance | 2 |
| THR 261 | Beginning Jazz Dance | 2-3 |
| THR 271 | Beginning Ballet | 2-3 |
| THR 300 | Theatre Lab | 1-3 |
| THR 301 | Intermediate Dance | 2 |
| THR 303 | Scene Painting | 3 |
| THR 305 | Theatre Stagecraft | 3 |
| THR 307 | Theatre Lighting | 3 |
| THR 310 | Acting I | 3 |
| THR 312 | Acting-Film \& TV | 3 |
| THR 320 | Stage Mvmt \& Voice | 3 |
| THR 323 | Acting II | 3 |
| THR 325 | Thry\&Crtcsm Stage: I | 3 |
| THR 326 | Thry\&Crtcsm stage:ll | 3 |
| THR 330 | Concepts Scene Desgn | 3 |
| THR 344 | Act/Dir-Musical Thr | 3 |
| THR 351 | Intermed Tap Dance | 2 |
| THR 361 | Intermed Jazz Dance | 2 |
| THR 371 | Intermediate Ballet | 2 |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |
| VAF 204 | Drawing II | 3 |
| VAF 226 | Painting I | 3 |
| VAF 228 | Watercolot I | 3 |
| VAF 232 | Sculpture I | 3 |
| VAF 240 | Ceramics I | 3 |
| VAF 253 | Printmaking I | 3 |
| VAF 304 | Drawing III | 3 |
| VAF 325 | Figure Painting | 3 |
| VAF 326 | Painting II | 3 |
| VAF 328 | Watercolor II | 3 |
| VAF 332 | Sculpture II | 3 |
| VAF 342 | Ceramics III | 3 |
| VAF 353 | Printmaking II | 3 |
| VAH 101 | Intro-Visual Arts | 3 |
| VAH 201 | Survey of Art I | 3 |
| VAH 202 | Survey of Art II | 3 |
| VAH 203 | Survey of Art III | 3 |
| VAH 350 | Western Architecture | 3 |
| VAH 360 | Art History\&Feminsm | 3 |
| VAH 370 | American Art | 3 |


| VAH 382 | Hst of Photogrphy I | 3 |
| :--- | :--- | :--- |
| VAH 383 | Hst-Graphic Design | 3 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAP 201 | Photography II | 3 |
| VAR 210 | Visual Journal | 3 |
| VAR 220 | Visual Resources | 3 |
| 4 Contextual courses may be General Education approved and used |  |  |

## Arabic (ARA)

| CMS 316 | Intercultural Comm | 3 |
| :--- | :--- | :--- |
| CMS 414 | Global Communication | 3 |
| HST 333 | Hst of Mode Mdle East | 3 |
| HST 334 | Hst Pal-Isrl Cflct | 3 |
| HST 354 | Hst-Women Mid East | 3 |
| HST 356 | Women in Third World | 3 |
| HST 493 | Sem In Mid East Hst | 3 |
| PHL 351 | Medievel Philosophy | 3 |
| Chinese (CHI) |  |  |
| CMS 316 | Intercultural Comm | 3 |
| CMS 414 | Global Communication | 3 |
| ENG 341 | Asian-American Lit | 3 |
| HST 330 | Hst E Asia to 1800 | 3 |
| HST 332 | Modern China\&Japan | 3 |
| PHL 355 | Asian Philosophy | 3 |
| French (FRN) |  |  |
| CMS 316 | Intercultural Comm | 3 |
| CMS 414 | Global Communication | 3 |
| ENG 353 | Lit-Renaissance | 3 |
| ENG 407 | Medieval English Lit | 3 |
| HST 383 | Hst of Caribbean | 3 |
| POL 320 | Western Europe | 3 |
| THR 415 | Hst of the Theatre I | 3 |
| THR 425 | Hst of Theatre II | 3 |
| Geman (GR) |  |  |


| German (GER) |  |
| :--- | :--- | :--- |
| CMS 316 | Intercultural Comm |

CMS 414 Global Communication 3
POL 320 Western Europe 3
THR 415 Hst of the Theatre I 3
THR $425 \quad$ Hst of Theatre II 3

| Hindi (HND) |  | 3 |
| :--- | :--- | :--- |
| CMS 316 | Intercultural Comm | 3 |
| CMS 414 | Global Communication | 3 |
| HST 356 | Women in Third World | 3 |

Italian (ITA)
CMS 316 Intercultural Comm 3
CMS 414 Global Communication 3
ENG 353 Lit-Renaissance 3
THR 415 Hst of the Theatre I 3
VAH 450 Itl Renaissance Art 3
Latin (LAT)

| HST 303 | Hst Roman Rep\&Emp | 3 |
| :--- | :--- | :--- |
| PHL 351 | Medievel Philosophy | 3 |
| THR 415 | Hst of the Theatre I | 3 |
| THR 425 | Hst of Theatre II | 3 |
| Russian (RUS) |  | 3 |
| CMS 316 | Intercultural Comm | 3 |
| CMS 414 | Global Communication | 3 |
| HST 326 | Hst-Sov Un 1860-Pr | 3 |
| POL 321 | Russia\&New States | 3 |
| Spanish (SPN) |  | 3 |
| CMS 316 | Intercultural Comm | 3 |
| CMS 414 | Global Communication | 3 |
| ENG 360 | Latina/Latino Lit | 3 |
| HST 357 | Latin Amer-20th Cen | 3 |
| HST 358 | Soc\&Cult Hst-Lat Am | 3 |
| HST 382 | History of Mexico | 3 |
| HST 383 | Hst of Caribbean | 3 |
| HST 384 | Econ Hst of Lat Am | 3 |

Summary of Requirements for the B.A.
Major ..... 30-45
Liberal Studies Curriculum ${ }^{1}$
Philosophy and Religious Studies ..... 12
History ..... 6
Literature ..... 3
Creative and Performing Arts ..... 3
L2 Proficiency (Proficiency in a language other than English) ..... 0-11
Social Sciences ..... 12
Mathematics ..... 3
Natural Sciences ..... 11
General Competencies ..... 3-9
Introduction to the University ..... 0-1
Electives to total 124 hours ..... 8-44
Total Hours ..... 91-160
1 For specifics of the requirement, please refer to the Bulletin section: College of Arts and Sciences - General Requirements for all Bachelor of Arts Programs.

## 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 or the dean. For departmental or program requirements, consult program schedules or the department chairperson or program director.

| Major Concentration (with at least 24 semester hours at 300-400 | $30-60$ |
| :--- | :---: |
| level). |  |
| Breadth Requirement (See Distribution Table below.) | $41-50$ |

General Education Requirements: These courses may also be counted for other requirements where applicable. (See Chapter V.) Program Requirements and General Electives: Electives should be 10-40 approved by the chairperson or dean since some restrictions exist.
Total Hours
111-180

## Distribution Table for Breadth Requirements

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.

Natural Sciences: Selected from Biology, Chemistry, Geology, and 8 Physics courses with accompanying laboratories.
Mathematics, Computer Science: At least 3 semester hours must be 6 in Mathematics, the course(s) to be determined by placement and major program.
Social and Behavioral Sciences: 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 Studies, Education, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI, AMS, and CMS.
Humanities: 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.)
Philosophy and Religious Studies
Communication Competencies: Each student should demonstrate competence in written and oral communication. 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.
ENG 100 Writing Seminar I
\& ENG 200 and Writing Seminar II
or ENG 200H Writing Seminar II
or ENG 100A Writing Seminar IA
\& ENG 100B and Writing Seminar 1B
CMM 110 Group Dec-Making
CMM 111 Inform Public Sp
or CMM 112 Persuasive Public Sp
CMM 113 Interviewing

## Degree Requirements

To be awarded the bachelor's degree by the College of Arts and Sciences, it is necessary to complete all the requiremements listed for one of the academic programs offered by the College. 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 applied courses may be counted in the semester hours required for the degree. In addition, a maximum of one semester hour from ASI 150, VAR 100, or an equivalent course may be counted in the semester hours required for the degree. The final 30 semester hours must be earned at the University of Dayton. Furthermore, a minimum of 12 semester hours
of course work at the 300 and 400 level in the major must be completed at the University.

## Graduation Requirements

1. It is the responsibility of the student to file his or her Candidate for Graduation form.
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.

## L2 Entrance Requirement

Any student admitted to the College of Arts and Sciences must have had two years of high school study of a language other than English (L2) or make up the deficit at the University. The deficit may be made up by successful completion of one of the following courses or the equivalent:

| ARA 141 | Basic Profncy ARA II | 4 |
| :--- | :--- | :--- |
| CHI 141 | Basic Profncy CHI II | 4 |
| FRN 141 | Basic Profncy Frn II | 4 |
| GER 141 | Basic Profncy GER II | 4 |
| ITA 141 | Basic Prfncy ITA II | 4 |
| LAT 141 | Basic Profncy LAT II | 4 |
| RUS 141 | Basic Profncy Rus II | 4 |
| SPN 141 | Basic Profncy Spn II | 4 |

## Proficiency in L2

The College of Arts and Sciences strongly encourages its students to acquire the highest level of L2 proficiency. Students may show proficiency by demonstration of basic practical communicative competence in a language other than English. Proficiency for modern languages includes the following four skills:

- Speaking: Ability to handle successfully a limited number of interactive, task-oriented, and social situations. Can ask and answer questions, initiate and respond to simple statements, and maintain face-to-face conversation, although with hesitancy and linguistic inaccuracies. Speech is generally understood by native speakers used to interacting with language learners.
- Writing: Ability to write simple messages and descriptions on familiar topics, to provide biographical information, and to express interests and preferences by recombining learned vocabulary and structures. Some effort may be required from native speakers to understand the written messages.
- Listening: Comprehension of main idea and some supporting detail in passages of up to 250 words of everyday speech on familiar topics in a context that provides significant support for the message.
- Reading: Comprehension of main idea and supporting detail in contextualized written passages of up to 600 words in which a generally familiar, everyday topic is discussed.

Students entering the University have the opportunity to demonstrate the defined levels of proficiency by passing a University placement/ proficiency examination. Any student who has not achieved proficiency
as determined by this examination upon entry can choose from the following options to reach proficiency:

- course work at the University of Dayton
- course work elsewhere
- an individual study program
- study abroad
- an immersion experience

The Department of Languages offers the following possible sequences of language courses:

- Basic Proficiency For students who have never studied the language previously or who demonstrate no functional ability: 101-141 (8 sem. hrs.) in Arabic, Chinese, French, German, Italian, Latin, Russian and Spanish.
- Accelerated sequence For students with previous language study or experience who demonstrate some functional ability on the placement/proficiency examination: 131-141 ( 6 sem. hrs.) available in French, German, Latin and Spanish.
- Capstone course (201)

For students with significant language study or experience: (4 sem. hrs.) available in all languages.

Students choosing to complete the Liberal Studies Curriculum using Latin as their language will be required to demonstrate proficiency in reading and translation only.
Students whose first language is not English demonstrate L2 proficiency by satisfying the University General Competencies requirements in writing and oral communication.

## 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.

## Mini-Courses

Mini-courses 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, highly current needs or interests not covered 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 typical mini-course 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 mini-courses take the form of workshops. Occurring at various times in the year, mini-courses are publicized throughout campus. They can be added to students schedules during the term. For a sample listing of mini-courses, visit University Interdisciplinary Studies (UDI) in Academic Information.

## Special Programs and Continuing Education

To serve adults in the Dayton community, the University provides a variety of noncredit courses, many in the form of workshops, seminars, study tours, and conferences. 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, OSHER Lifelong Learning Institute, Senior Fellows, and New Horizons Band, for persons fifty and over. Continuing Education Units (CEU) are awarded for a fee for some offerings.

## Teacher Licensure for Students in Bachelor of Arts and Bachelor of Science

## B.A. or B.S. with Teacher Licensure

Students in the College of Arts and Sciences may be able to complete the requirements for a teaching license without transferring to the School of Education and Allied Professions. For additional information regarding this option consult the Dean's office in the College of Arts and Sciences.

Enrollment, continuation, and successful completion in this program are subject to the same admission requirements, advising, maintenance of a unified system of records, screening, and other professional expectations of students in the School of Education and Allied Professions working toward the B.S. in Education and Allied Professions.

In order to complete all requirements in four years, a student in the College of Arts and Sciences should process an application for admission to the appropriate licensure program during the second semester of enrollment to begin the professional education sequence. Screening will be completed by the SOEAP transfer official. The requirements for the College of Arts and Sciences, the School of Education and Allied Professions, and licensure program concentration courses must be completed in order to be eligible for licensure recommendation. It is
possible for students to earn dual degrees in the College of Arts and Sciences and School of Education and Allied Professions.

## Programs of Study

To learn more about the available programs in the College of Arts and Sciences,
explore the departments in the menu on the right.

## Africana Studies

The Africana studies minor offers an interdisciplinary approach to the study of the peoples of Africa and African descendants in the Americas, Africa and throughout the Diaspora. Through its courses, the minor encourages service at the local, national, and international level. The minor prepares distinctive graduates to develop and use analytical skills and approaches to understand historical and contemporary issues associated with the experience of Africans and African descendants. The minor is interdisciplinary and structured to incorporate teaching and research methodologies and materials from disciplines in the College of Arts and Sciences and other schools throughout the University.

The Africana studies minor requires 15 semester hours. It must include one approved "Special Topics" or "Independent Study" course from an appropriate discipline and 12 semester hours in upper division courses (300-level or above) from a minimum of three different disciplines.

## Africana Studies Committee

Julius A. Amin (History), Coordinator
Cox (Music), Kebede (Philosophy), Randall (Law)

## Minor in Africana Studies (AFS)

Africana Studies

| Select courses from at least three different disciplines: |  |
| :--- | :--- |
| EDT 340 | Ed Dvse St Pop -Incl |
| ENG 335 | African Amer Lit |
| HST 336 | Hst-Africa 19th Cn |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 383 | Hst of Caribbean |
| HST 385 | Atlantic World |
| HST 398 | Hs Blks-US 1526-1900 |
| HST 399 | Hst Blks-US s/1900 |
| HST 488 | Sem in African Hst |
| MUS 305 | Africn Amer Sac Mus |
| MUS 306 | History-Amer Jazz |
| MUS 390 | Ensembles |
| PHL 363 | African Philosophy |
| PHL 364 | Race, Gender\&Phl |
| REL 329 | African Amer Rel |
| SOC 328 | Racial\&Eth Minorties |

Select special topics courses from:
MUS 360 Special Topics-Music
REL 492 Special Topics
VAH 490 Special Problems
Special topics or independent studies course approved by committee

Total Hours

## Air Force Aerospace Studies, ROTC (AES)

As a University of Dayton student, you have the opportunity to become an Air Force officer through a cooperative agreement with Wright State University's Department of Aerospace Studies. We offer the Air Force Reserve Officer Training Corps (ROTC) program to full-time University of Dayton students pursuing a baccalaureate degree. While all courses are taken through the University of Dayton, leadership laboratories and classes for junior and senior years are typically taught at Wright State University, the host site of the area Air Force ROTC detachment.

The Air Force ROTC program is designed to produce Air Force officers who will be successful leaders and managers. All officers will be placed in positions of responsibility, facing challenging and rewarding career opportunities while using the most advanced technology in the world.

The Air Force ROTC program is organized in two portions: the General Military Course (GMC), typically taken during freshman and sophomore years, and the Professional Officer Course (POC), usually taken during junior and senior years or during the last two years prior to graduation. At a minimum, officers will need to complete the POC portion of the program.

- The GMC is a no-obligation introduction to the Air Force. The course covers the development and history of air power and the organization of the contemporary United States Air Force.
- The POC curriculum covers communicative skills, Air Force management and leadership, American defense policy, and regional world studies. Air Force ROTC students have additional opportunities to participate in challenging and rewarding activities that include piloting a sail-plane, trips to air force bases, orientation flights, official military functions and ceremonies, and one on-one mentoring with an active duty Air Force officer.

This program is open to all majors. All Air Force ROTC students have the opportunity to apply for scholarships that pay partial or full tuition, books, and fees, plus a \$300-\$500 monthly stipend depending on your progress in the program. These scholarships are available on a competitive basis to students who demonstrate academic and leadership potential. Scholarships with the greatest availability are in the areas of engineering, mathematics, computer science, and physics. High school students should apply for a scholarship no later than December 1st of their senior year. Apply at www.afrotc.com (catalog.udayton.edu/undergraduate/collegeofartsandsciences/ programsofstudy/airforceaerospacestudiesrotc/www.afrotc.com). Incollege students will apply for scholarships through their Air Force ROTC instructor. If you are a freshman or sophomore seeking a challenge or wish to give Air Force ROTC a trial run, sign up for the Aerospace Studies 121 course.

All other students should contact:
The Department of Aerospace Studies
Wright State University
Dayton, Ohio 45435
Phone: 937-775-2730
Email: afrotc@wright.edu (catalog.udayton.edu/undergraduate/ collegeofartsandsciences/programsofstudy/airforceaerospacestudiesrotc/ mailto:afrotc@wright.edu)
Website: www.wright.edu/academics/prog/rotc/home.htm (http:// www.wright.edu/academics/prog/rotc/home.htm)
or

The University of Dayton Admissions Office
Phone: 1-937-229-1000
E-mail: info@udayton.edu

## Courses

AES 120. GMC-Leadership Lab. 0 Hours
GENERAL MILITARY COURSE (GMC), LEADERSHIP LABORATORY - Applied Air Force Reserve Officer Training Corps (AFROTC) training. This lab provides an opportunity for students to apply Air Force procedures, techniques, and knowledge. Students will learn the Air Force organizational structure as well as customs and courtesies. GMC cadets will also develop their followership and teamwork skills in a cadet led, cadre supervised Lab environment. Requires participation in two weekly physical training sessions. Taken concurrently with 100-level AES courses. (Pass/Fail).

## AES 121. Found-US Air Frce I. 1 Hour

FOUNDATIONS OF THE UNITED STATES AIR FORCE I - This is a survey course designed to introduce students to the United States Air Force and provide an overview of the basic characteristics, missions, and organization of the Air Force. Corequisite(s): AES 120.

## AES 122. Found-US Air Frce II. 1 Hour

FOUNDATIONS OF THE UNITED STATES AIR FORCE II - This is a continuation of AES 121. It is a survey course designed to introduce students to the United States Air Force and provide an overview of the basic characteristics, missions, and organization of the Air Force. Corequisite(s): AES 120.

## AES 220. FTP-Leadrshp Lab. 0 Hours

FIELD TRAINING PREPARATION (FTP) LEADERSHIP LABORATORY - Applied Air Force Reserve Officer Training Corps (AFROTC) training. This lab further develops skills and concepts introduced in the General Military Course Leadership Laboratory. Students are prepared mentally and physically for the demanding requirements of upcoming Field Training summer program. Training is cadet led where students will display their ability to apply Air Force concepts and procedures. Requires participation in two weekly physical training sessions. Taken concurrently with 200-level AES courses. (Pass/Fail).

## AES 221. EvI-US AF Air\&Sp II. 1 Hour

EVOLUTION OF USAF AIR AND SPACE POWER I - This course features topics on Air Force heritage and leaders; introduction to air and space power through examination of distinctive capabilities and functions; and continued application of communication skills. Its purpose is to instill an appreciation of the development and employment of air and space power and to motivate sophomore students to transition from AFROTC cadet to Air Force ROTC officer candidate. Corequisite(s): AES 220.

## AES 222. Evolution of USAF. 1 Hour

EVOLUTION OF USAF AIR AND SPACE POWER II - This course is a continuation of AES 221 and features topics on Air Force heritage and leaders; introduction to air and space power through examination of distinctive capabilities and functions; and continued application of communication skills. Its purpose is to instill an appreciation of the development and employment of air and space power and to motivate sophomore students to transition from AFROTC cadet to Air Force ROTC officer candidate. Corequisite(s): AES 220.

AES 250. Independent Study. 1-3 Hours
INDEPENDENT STUDY - Independent Study.

## AES 270. Extended GMC Ldr Lab. 0 Hours <br> EXTENDED GMC LEADERSHIP LABORATORY - Extended GMC Leadership Laboratory.

AES 322. Air Free Ldshp Std I. 3 Hours
AIR FORCE LEADERSHIP STUDIES I - Air Force Leadership Studies.

## AES 330. ICL-App AF Training. 0 Hours

INTERMEDIATE CADET LEADERSHIP (ICL) LABORATORY: APPLIED AIR FORCE ROTC TRAINING - The ICL lab builds the foundation of leadership skills required as an Air Force Officer. Cadets apply leadership/management concepts learned in Field Training and previous aerospace studies classes and labs to assist in training the General Military Course cadets. Requires participation in two weekly physical training sessions. Taken concurrently with 300-level AES courses. (Pass/ Fail).

## AES 331. AF Leadrshp Std I. 3 Hours

UNITED STATES AIR FORCE LEADERSHIP STUDIES I - This course teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Cadets have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors. Prerequisite(s): AES 330.

## AES 332. AF Leadrshp Std II. 3 Hours

UNITED STATES AIR FORCE LEADERSHIP STUDIES II - Air Force Leadership Studies.

## AES 430. SCL-App AF Training. 0 Hours

SENIOR CADET LEADERSHIP (SCL) LABORATORY: APPLIED AIR FORCE ROTC TRAINING - This lab prepares students for progression into active duty life. As in the Intermediate Cadet Leadership Lab, students take leadership roles in execution of leadership labs for the cadet wing. Students hone leadership fundamentals learned in previous courses and labs to a level commensurate to entry into the active duty Air Force. Requires participation in two weekly physical training sessions. Taken concurrently with 400-level AES courses. (Pass/Fail).

## AES 431. NtI Sec Aff\&Prep I. 3 Hours

NATIONAL SECURITY AFFAIRS/ PREPARATION FOR ACTIVE DUTY
I - This course is designed to give college seniors the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. Corequisite(s): AES 430.

AES 432. Ntl Sec Aff\&Prp ADII. 3 Hours
NATIONAL SECURITY AFFAIRS/ PREPARATION FOR ACTIVE
DUTY II - This course is a continuation of AES 431 and is designed to give college seniors the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. Corequisite(s): AES 430.

AES 440. SCL-App AF Training. 0 Hours
SENIOR CADET LEADERSHIP (SCL) APPLIED AIR FORCE TRAINING

- Applied Air Force Training.


## AES 470. Extended POC Ldr Lab. 0 Hours

 EXTENDED POC LEADERSHIP LABORATORY POC - Leadership Laboratory.AES 491. Independent Study. 1 Hour
INDEPENDENT STUDY - Independent Study.
AES 493. Independent Study. 3 Hours
INDEPENDENT STUDY - Independent Study.

## American Studies

- Bachelor of Arts, American Studies

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

## American Studies Committee

Donald L. Pair (Office of the Dean), Interim Program Director

## Bachelor of Arts with a Major in American Studies (AMS)

| American Studies |  |  |
| :---: | :---: | :---: |
| AMS 300 | American Cultures | 3 |
| AMS 301 | Interps of Amer Cult | 3 |
| AMS 400 | Interdisc Research | 3 |
| First Area Courses: |  |  |
| Select five courses from either group A, B, or C |  | 15 |
| Select supporting courses in the elected discipline |  | 9 |
| Second Area Courses: |  |  |
| Select three courses from one of the two remaining groups |  | 9 |
| Third Area Courses: |  |  |
| Select two courses from the remaining group |  | 6 |
| Groups: |  |  |
| Group A |  |  |
| ENG 305 | Survey-American Lit |  |
| ENG 317 | Contemporary Poetry ${ }^{1}$ |  |
| ENG 319 | Contemporary Fiction ${ }^{1}$ |  |
| ENG 320 | Contemporary Drama ${ }^{1}$ |  |
| ENG 325 | Science Fiction |  |
| ENG 327 | Studies-Populr Fictn |  |
| ENG 329 | Short Story ${ }^{1}$ |  |
| ENG 331 | Studies in Film ${ }^{1}$ |  |
| ENG 332 | Studies-Lit \& Film ${ }^{1}$ |  |
| ENG 335 | African Amer Lit |  |
| ENG 337 | Studies-Folklore |  |
| ENG 339 | American Indian Lit |  |
| ENG 380 | Studies in Lit ${ }^{1}$ |  |
| ENG 383 | Tragic Dilemma ${ }^{1}$ |  |
| ENG 451 | American Romanticism |  |
| ENG 453 | Amer Realism\&Natrlsm |  |


| ENG 455 | 20th Centruy Amer Lit |
| :---: | :---: |
| ENG 468 | Intro to Linguistics |
| ENG 490 | Seminar ${ }^{1}$ |
| MUS 304 | Hst of Amer Music |
| MUS 305 | Africn Amer Sac Mus |
| MUS 306 | History-Amer Jazz |
| MUS 307 | Dev Amer Poplr Song |
| MUS 327 | Music in Film |
| MUS 328 | Hst-Amer Musical |
| MUS 404 | 20hth Century Music ${ }^{1}$ |
| VAH 370 | American Art |
| VAH 480 | 20th Century Art I |
| VAH 482 | Hst-Photogrphy II |
| VAH 483 | 20th Century Art II |
| VAH 490 | Special Problems ${ }^{1}$ |
| Group B |  |
| HST 342 | Environ Hst Americas |
| HST 344 | Hst-Sci,Tch\&Mod Crp |
| HST 346 | Hist of Aviation |
| HST 347 | Sex,Race \& Sicence |
| HST 351 | Women Gender Am |
| HST 352 | Hst of Amer Family |
| HST 355 | American Urban Hist |
| HST 360 | US Legl/Const Hst I |
| HST 361 | US Legl/Const Hst II |
| HST 365 | Amer Films as Hst |
| HST 369 | Civil War \& Recnstr |
| HST 370 | Eco \& Bus Hst-US |
| HST 372 | Hst-Rel in US |
| HST 373 | American Mil Hst |
| HST 374 | Ireland \& America |
| HST 375 | US Foreign Relations |
| HST 376 | Soc \& Cult Hst of US |
| HST 377 | Contemprary Amer Hst |
| HST 378 | Hst Globl Immgnts-US |
| HST 380 | Native Amer History |
| HST 385 | Atlantic World |
| HST 391 | Amr Arch Hst\&Prsrvtn |
| HST 398 | Hs Blks-US 1526-1900 |
| HST 399 | Hst Blks-US s/1900 |
| HST 490 | Sem in Hstrgrphy |
| HST 495 | Internship |
| HST 499 | Topics in History ${ }^{1}$ |
| PHL 307 | Philosophy and Women |
| PHL 310 | Social Philosophy |
| PHL 311 | Phl of Religion |
| PHL 314 | Philosophy of Law |
| PHL 317 | Ethics\&Modern War |
| PHL 318 | Family Ethics |
| PHL 320 | Philosophy of Art |
| PHL 323 | Phl \& Literature |


| PHL 331 | Sci, Objitty \& Values |
| :---: | :---: |
| PHL 332 | Technology\&Values |
| PHL 340 | Special Problems ${ }^{1}$ |
| PHL 361 | American Philosophy |
| REL 326 | Protestant Christnty |
| REL 327 | US Religious Expr |
| REL 328 | US Cath Experience |
| REL 364 | Current Moral Issues |
| REL 367 | Chr Ethics\&HIth Care |
| REL 372 | Religion \& Film |
| REL 373 | Religion\&Literature |
| REL 375 | Religion \& Science |
| REL 376 | Theol\&Soc Sciences |
| REL 485 | Lay Ministry |
| Group C |  |
| ANT 315 | Language and Culture |
| ANT 335 | Urban Anthropology |
| ANT 449 | Anthrop Field Work |
| ECO 346 | Intrmd MicroEco Anly |
| ECO 347 | Intrmd MacroEco Anly |
| ECO 390 | Antitrust Economics |
| ECO 435 | Eco of Environmnt |
| ECO 441 | Econometrics |
| ECO 442 | Money and Banking |
| ECO 445 | Public Finance |
| ECO 460 | Eco Develop \& Growth |
| ECO 461 | International Econ |
| ECO 471 | Labor Economics |
| ECO 485 | Urban\&Regional Econ |
| POL 301 | Amer Judicl Process |
| POL 303 | State \& Local Govt |
| POL 310 | Pol Prts, Cmpns\&Eltns |
| POL 311 | Pub Opin \& Pol Bhvr |
| POL 313 | American Presidency |
| POL 314 | Interest Group Pols |
| POL 316 | American Pol Thought |
| POL 335 | US Natnl Sec Policy |
| POL 350 | Legislative Politics |
| POL 360 | Urban Politics |
| POL 408 | Amer Foreign Policy |
| POL 411 | Constitutional Law |
| POL 413 | Poltcs-Bureau\&Regln |
| POL 450 | Civil Liberties |
| PSY 334 | Industrial Psycholgy |
| PSY 341 | Social Psychology |
| PSY 351 | Child Psychology |
| PSY 361 | Personality |
| PSY 363 | Abnormal Psychology |
| PSY 443 | Psychology of Women |
| PSY 461 | Curr Impl-Drug Depnd |
| PSY 462 | Human Sexuality |
| PSY 471 | Hst of Psychology |


| SOC 321 | Soc of Work\&Occuptns |  |
| :---: | :---: | :---: |
| SOC 328 | Racial\&Eth Minorties |  |
| SOC 337 | Political Sociology |  |
| SOC 339 | Social Inequality |  |
| SOC 341 | Self \& Society |  |
| SOC 343 | Mass Comm-Mdrn Socty |  |
| SOC 351 | Urban Sociology |  |
| SOC 352 | Community |  |
| SOC 435 | Soc of Globalization |  |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| L2 Proficiency (Proficiency in a language other than English) |  | 0-11 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 12 |
| Social Sciences |  | 12 |
| Total Hours - general education courses/academic electives to total at least |  | 124 |
| 1 This cours American | an be counted only when the material is appropriat dies. Consult program director. |  |

## Courses

AMS 300. American Cultures. 3 Hours
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. (Will not satisfy humanities breadth requirement.).

## AMS 301. Interps of Amer Cult. 3 Hours

INTERPRETATIONS OF AMERICAN CULTURE - Critical study of various interpretations of American culture through more than a hundred years.

## AMS 400. Interdisc Research. 3 Hours

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.

## AMS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for 3 semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## AMS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for 3 semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## Arts Administration

The minor in Arts Administration provides an introductory background to students with an interest in the management of non-profit arts and community organizations. Eligible students are declared majors or minors in music, theatre, and visual arts, or majors in business. The minor offers two tracks depending on the student's major. It provides Arts students with an introductory foundation in business and economics, and SBA students with further literature and practical study in the arts. Core courses explore special issues and challenges that the art community faces today. The minor integrates classroom study with real-world experiences with area arts organizations. The Arts Administration minor requires nineteen semester hours, including seven semester hours of core interdisciplinary courses.

## Arts Administration Committee

Linda Snyder (Department of Music), Rebecca Wells (School of Business Administration)

## Minor in Arts Administration (AAD)

Arts Administration - Track A (required for visual arts, music and theatre majors and minors)

| AAD 301 | Intro to Arts Admin | 3 |
| :--- | :--- | :---: |
| AAD 498 | Arts Admin Internshp | $1-3$ |
| ACC 200 | Intro to Accounting | 3 |
| ECO 203 | Prin of Microecon | 3 |
| Select two courses from: |  | 6 |
| FIN 301 | Intro to Financial Mgt |  |
| MGT 201 | Legal Envirnmt-Bus |  |
| MKT 300 | Survey of MKT |  |
| OPS 300 | Intro-Oper\&Supply Mgt | $16-18$ |
| Total Hours |  |  |

Arts Administration - Track B (required for business majors)

| AAD 301 | Intro to Arts Admin | 3 |
| :--- | :---: | :---: |
| AAD 498 | Arts Admin Internshp | $1-3$ |
| Select three courses from two areas: | 9 |  |

Music ${ }^{1}$
MUS $201 \quad$ Music in Concert
MUS 202 Prof Dev Workshops
MUS 302 Mus Hist \& Lit II
MUS 303 Intro World Music
Theatre/Dance
THR 105 Intro to Theatre
THR $415 \quad$ Hst of the Theatre I
THR $425 \quad$ Hst of Theatre II

| Visual Arts |  |  |
| :---: | :---: | :---: |
| VAH 101 | Intro-Visual Arts |  |
| VAH 201 | Survey of Art I |  |
| VAH 202 | Survey of Art II |  |
| VAH 203 | Survey of Art III |  |
| Select courses from performance or creative arts: |  | 3 |
| MUS 191 | Voice Class |  |
| MUS 195 | Beg Guitar Class I |  |
| MUS 196 | Group Piano I |  |
| MUS 295 | Beg Guitar Class II |  |
| MUS 296 <br> \& MUS 297 | Func Keybd Skls I and Func Keybd Skls II |  |
| MUS 390 | Ensembles |  |
| MUS 399 | Performance Studies |  |
| MUS 491 | University Orchestra |  |
| MUS 492 | Symphonic Wind Ens |  |
| MUS 493 | University Chorale |  |
| THR 100 | Theatre Lab |  |
| THR 201 | Basic Dance |  |
| THR 251 | Beginning Tap Dance |  |
| THR 261 | Beginning Jazz Dance |  |
| THR 271 | Beginning Ballet |  |
| THR 305 | Theatre Stagecraft |  |
| THR 307 | Theatre Lighting |  |
| THR 310 | Acting I |  |
| THR 312 | Acting-Film \& TV |  |
| THR 320 | Stage Mvmt \& Voice |  |
| THR 330 | Concepts Scene Desgn |  |
| VAD 215 | Computr Appl-Desgn |  |
| VAD 218 | Computr Appl-Illust |  |
| VAD 220 | Design Processes I |  |
| VAF 104 | Foundation Drawing |  |
| VAF 112 | Foundation 2-D Dsgn |  |
| VAP 101 | Foundatn Photogrphy |  |
| Total Hours |  | 16-18 |
| 1 Other course | may be selected with approval. |  |

## Courses

AAD 301. Intro to Arts Admin. 3 Hours INTRODUCTION TO ARTS ADMINISTRATION - Interdisciplinary introduction to the fundamental principles and applications of managing a non-profit arts organization. Study of strategies and tools for effective arts management. Recommended for students with a background in the arts and/or business.

## AAD 498. Arts Admin Internshp. 1-3 Hours

ARTS ADMINISTRATION INTERNSHIP - Arts administration work experience in an approved organization. Student must be in good academic standing. Students are limited to a maximum of three semester hours. Prerequisite(s): AAD 301; UDI 371; permission of program advisor.

## Biology

Majors:

- Bachelor of Science, Biology
- Bachelor of Science, Environmental Biology

Minor:

- 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 science.

The department has two primary areas of focus:

1. Environmental/ecological science
2. Basic biomedical science.

The former includes:

- Ecology
- Population biology
- Ecological physiology
- Environmental microbiology
- Community and restoration ecology
- Entomology and analysis of biological data
- Evolutionary biology
- Plant physiology
- Environmental biology in the narrow sense

The biomedical science course offerings include:

- Molecular biology
- Cell biology
- General and medical microbiology
- Immunology
- Genetics
- Mammalian physiology
- 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 their 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 five-year 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 five-year B.S.-M.S. program may be obtained from the departmental office.
A minor in biology consists of twenty semester hours.

## Faculty

Jayne B. Robinson, Chairperson
Distinguished Service Professor: Noland
Professors Emeriti: Chantell, Geiger, Ramsey
Professors: Burky, Kearns, Robinson, Rowe, Tsonis, P. Williams
Associate Professors: Friese, Krane, Nielsen, D. Wright, S. Wright
Assistant Professors: Benbow, Hansen, Hong, Kango-Singh, McEwan, Singh, T. Williams
Lecturers: Collins, Dillon, Kavanaugh, Klco, Nickell
Adjunct Faculty: Del Rio-Tsonis, Hussain, Joseph, Schlager

## Bachelor of Science with a Major in Biology (bio)

| Biology $^{1}$ |  |  |
| :--- | :--- | :--- |
| BIO 151 | Concepts of Bio I |  |
| \& 151L | and Concepts-Bio Lab I | 4 |
| BIO 152 | Concepts of Bio II |  |
| \& 152L | and Concepts-Bio Lab II | 4 |
| BIO 299 | Biology Seminar | 1 |
| BIO 310 | Ecology | 3 |
| BIO 312 | General Genetics | 3 |
| BIO 420 | Seminar | 1 |
| Select two environmental/ecological courses from: ${ }^{2}$ | 7 |  |


| BIO 301 | Evolution |
| :--- | :--- |
| BIO 309 | Comp Anat Vertebrts |
| \& 309L | and Comp Anatomy Lab |
| BIO 310L | Ecology Lab |
| BIO 311 | Intro Entomology |
| BIO 312L | Genetics Lab |
| BIO 314 | Plant Biology |
| \& 314L | and Plant Bio Lab |
| BIO 320 | Marine Biology |
| \& 320L | and Marine Biology Lab |
| BIO 340 | Cltr Biodiv\&Res Mgt |
| \& 340L | and CItr Biodiv\&Res Lab |
| BIO 359 | Sustainable Biosphre |
| BIO 360 | Island Environ Bio |
| \& 360L | and Island Environ Lab |
| BIO 370 | Conservatn Biology |
| BIO 402 | Vertebrate Zoology |
| \& 402L | and Vertbrate Zoolgy Lab |
| BIO 407 | Plant Div \& Ecol |
| \& 407L | and Plant Div \& Ecol Lab |
| BIO 409 | Ecol Restoration |
| \& 409L | and Ecol Restoration Lab |
| BIO 411 | General Microbiology <br> \& 411L |


| BIO 412 | Genetics Human Dis |
| :---: | :---: |
| $\begin{aligned} & \text { BIO } 435 \\ & \& 435 \mathrm{~L} \end{aligned}$ | Microbial Ecology and Microbial Ecolgy Lab |
| BIO 439 | Analysis Biol Data |
| BIO 441 | Envirn Plant Bio |
| BIO 445 | Evolution\&Devlpmnt |
| $\begin{aligned} & \text { BIO 450 } \\ & \text { \& 450L } \end{aligned}$ | Comp Animal Physiol and Comp Animal Phys Lab |
| $\begin{aligned} & \text { BIO } 452 \\ & \& 452 \mathrm{~L} \end{aligned}$ | Bio Rivers \& Lakes and Bio River\&Lake Lab |
| $\begin{aligned} & \text { BIO } 459 \\ & \& 459 \text { L } \end{aligned}$ | Envirnmntl Ecology and Envirnmtl Eco Lab |
| BIO 460 | Intro Bioinformatics |
| BIO 461 <br> \& 461L | Invertebrate Zoology and Invertbrt Zoology Lab |
| BIO 465 | Disease Ecology |
| BIO 480 <br> \& 480L | Prin of Microscopy and Microscopy Lab |
| BIO 489 | Mycology |
| Select two basic biomedical courses from: ${ }^{3}$ |  |
| BIO 301 | Evolution |
| $\begin{aligned} & \text { BIO } 309 \\ & \& 309 \mathrm{~L} \end{aligned}$ | Comp Anat Vertebrts and Comp Anatomy Lab |
| BIO 311 | Intro Entomology |
| BIO 312L | Genetics Lab ${ }^{4}$ |
| $\begin{aligned} & \text { BIO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Physiology I and Physiology Lab |
| BIO 404 | Physiology II |
| $\begin{aligned} & \text { BIO } 411 \\ & \& 411 \mathrm{~L} \end{aligned}$ | General Microbiology and Gen Microbiology Lab |
| BIO 415 | Neurobiology |
| BIO 427 | Immunology |
| BIO 439 | Analysis Biol Data |
| $\begin{aligned} & \text { BIO } 440 \\ & \& 440 \mathrm{~L} \end{aligned}$ | Cell Biology and Cell Bio Lab |
| $\begin{aligned} & \text { BIO } 442 \\ & \& 442 \mathrm{~L} \end{aligned}$ | Developmental Bio and Devipmntl Bio Lab |
| BIO 445 | Evolution\&Devlpmnt |
| BIO 460 | Intro Bioinformatics |
| $\begin{aligned} & \text { BIO } 461 \\ & \& 461 \mathrm{~L} \end{aligned}$ | Invertebrate Zoology and Invertbrt Zoology Lab |
| BIO 462 | Molecular Biology |
| BIO 465 | Disease Ecology |
| BIO 466 | Bio-Infectious Dis |
| BIO 470 | Cancer Biology |
| $\begin{aligned} & \text { BIO } 475 \\ & \& 475 \mathrm{~L} \end{aligned}$ | Human Anatomy and Human Anatomy Lab |
| BIO 480 <br> \& 480L | Prin of Microscopy and Microscopy Lab |
| BIO 489 | Mycology |
| CHM 420 | Biochemistry |
| Select four electives, two with accompanying labs, from the group above. ${ }^{5}$ |  |
| Breadth Requirements |  |


| ASI 150 | Intr to the Univ Exp | 1 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| CHM 124 <br> \& 124L | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chem Lab | 4 |
| $\begin{aligned} & \text { PHY } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | General Physics and General Physics Lab | 4 |
| $\begin{aligned} & \text { PHY } 202 \\ & \& 202 \mathrm{~L} \end{aligned}$ | General Physics and General Physics Lab | 4 |
| Select one | matics sequence from: | 6 |

MTH 116 Precalculus Math
\& MTH 148 and Introductory Calc I
MTH 148 Introductory Calc I
\& MTH 149 and Introductory Calc II
MTH 168 Anly Geom \& Calc I
\& MTH 169 and Anly Geom \& Calc II
Communication Competencies 3-9
General Electives 8-9
Humanities $^{6} \quad 9$
Philosophy and Religious Studies 12
Social \& Behavioral Sciences 6
Total Hours - general education courses/academic electives to total 120 at least

1 The Department of Biology supports national standards established by the National Institutes of Health for the responsible, humane treatment and housing of animals. The biology curriculum contains some laboratory courses in which dissection and vivisection are necessary and required in order to convey an understanding of certain biological concepts. All students are expected to participate in such laboratory exercises in the introductory biology sequence, BIO 151L and BIO 152L which involve dissection and/or vivisection. In other elective formal laboratory courses in which dissection and vivisection occur, it is expected that students will participate in all aspects of the laboratory. No alternatives to dissection or vivisection will be offered in these courses. It is ultimately the responsibility of students to make certain that they enroll in courses in which they are able to participate in all required exercises, and to obtain information from each instructor as to the specific laboratory course content and requirements. The Biology Department maintains an updated list of laboratory courses in which dissection and/or vivisection is required in order to assist students in the selection of course work.
2 One with accompanying laboratory.
3 One with accompanying laboratory. BIO 462 strongly recommended as one of two courses.

4 Qualifies as a laboratory elective for any category.
5 One of the following Non-BIO science courses may include: CHM 201,CHM 302,CHM 303,CHM 420,MTH 367,CPS 107,CPS 111,CPS 132,GEO 208,GEO 308,GEO 401,Other Non-BIO science courses may be included with the approval of the chairperson.
6 HST 340, HST 341 or HST 342 are highly recommended.

## Bachelor of Science with a Major in Environmental Biology (evb)

Environmental biology is a science specialization based upon the fundamentals of biology and ecology, applying interdisciplinary skills, knowledge and principles to the environmental problems facing society today. Students entering this dynamic field could become directly involved in addressing some of the significant global problems related to human impact on the environment. In addition to the standard base of courses required of most biology majors, the curriculum also requires a challenging core of environmentally related science courses and course work drawn from a multidisciplinary elective pool that includes offerings in the humanities and social sciences.
Internship Program: Majors will participate in the EVB internship program (BIO 499, see course prerequisites), where they will have the unique opportunity to obtain valuable training and experience under the mentorship of established scientists and other environmental professionals.

## Environmental Biology

| BIO 151 | Concepts of Bio I <br> and Concepts-Bio Lab I | 4 |
| :--- | :--- | :---: |
| BIO 152 | Concepts of Bio II |  |
| \& 152L | and Concepts-Bio Lab II | 4 |
| BIO 299 | Biology Seminar |  |
| BIO 310 | Ecology | 1 |
| $\& 310 \mathrm{~L}$ | and Ecology Lab | 4 |
| BIO 312 | General Genetics | 3 |
| BIO 420 | Seminar | 1 |
| BIO 459 | Envirnmntl Ecology | 3 |
| BIO 479L | Envir Instr Lab | 2 |
| BIO 499 | Env Bio Internship | 3 |
| Select three field oriented courses from: ${ }^{1}$ | 11 |  |


| BIO 301 | Evolution |
| :--- | :--- |
| BIO 311 | Intro Entomology |
| BIO 312L | Genetics Lab ${ }^{2}$ |
| BIO 320 | Marine Biology |
| \& 320L | and Marine Biology Lab |
| BIO 340 | Cltr Biodiv\&Res Mgt |
| \& 340L | and Cltr Biodiv\&Res Lab |
| BIO 359 | Sustainable Biosphre |
| BIO 360 | Island Environ Bio |
| \& 360L | and Island Environ Lab |
| BIO 370 | Conservatn Biology |
| BIO 402 | Vertebrate Zoology |
| \& 402L | and Vertbrate Zoolgy Lab |
| BIO 407 | Plant Div \& Ecol |
| \& 407L | and Plant Div \& Ecol Lab |
| BIO 409 | Ecol Restoration |
| \& 409L | and Ecol Restoration Lab |
| BIO 439 | Analysis Biol Data |
| BIO 441 | Envirn Plant Bio |
| BIO 450 | Comp Animal Physiol |
| \& 450L | and Comp Animal Phys Lab |
| BIO 452 | Bio Rivers \& Lakes |
| \& 452L | and Bio River\&Lake Lab |


| BIO 459L | Envirnmtl Eco Lab ${ }^{2}$ |
| :--- | :--- |
| BIO 465 | Disease Ecology |
| BIO 489 | Mycology |

Select three laboratory oriented courses from: ${ }^{3}$

| $\begin{aligned} & \text { BIO } 309 \\ & \& 309 \mathrm{~L} \end{aligned}$ | Comp Anat Vertebrts and Comp Anatomy Lab |
| :---: | :---: |
| BIO 311 | Intro Entomology |
| BIO 312L | Genetics Lab ${ }^{2}$ |
| $\begin{aligned} & \text { BIO } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Plant Biology and Plant Bio Lab |
| $\begin{aligned} & \text { BIO } 402 \\ & \& 402 \mathrm{~L} \end{aligned}$ | Vertebrate Zoology and Vertbrate Zoolgy Lab |
| $\begin{aligned} & \text { BIO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Physiology I and Physiology Lab |
| $\begin{aligned} & \text { BIO } 411 \\ & \& 411 \mathrm{~L} \end{aligned}$ | General Microbiology and Gen Microbiology Lab |
| BIO 415 | Neurobiology |
| $\begin{aligned} & \text { BIO } 435 \\ & \& 435 \mathrm{~L} \end{aligned}$ | Microbial Ecology and Microbial Ecolgy Lab |
| BIO 439 | Analysis Biol Data |
| $\begin{aligned} & \text { BIO } 440 \\ & \& 440 \mathrm{~L} \end{aligned}$ | Cell Biology and Cell Bio Lab |
| BIO 441 | Envirn Plant Bio |
| $\begin{aligned} & \text { BIO } 442 \\ & \& 442 \mathrm{~L} \end{aligned}$ | Developmental Bio and Devlpmntl Bio Lab |
| BIO 445 | Evolution\&Devlpmnt |
| $\begin{aligned} & \text { BIO } 450 \\ & \& 450 \mathrm{~L} \end{aligned}$ | Comp Animal Physiol and Comp Animal Phys Lab |
| BIO 460 | Intro Bioinformatics |
| BIO 461 <br> \& 461L | Invertebrate Zoology and Invertbrt Zoology Lab |
| BIO 462 | Molecular Biology |
| BIO 465 | Disease Ecology |
| BIO 470 | Cancer Biology |
| $\begin{aligned} & \text { BIO } 475 \\ & \& 475 \mathrm{~L} \end{aligned}$ | Human Anatomy and Human Anatomy Lab |
| $\begin{aligned} & \text { BIO } 480 \\ & \& 480 \mathrm{~L} \end{aligned}$ | Prin of Microscopy and Microscopy Lab |
| BIO 489 | Mycology |

## Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | ---: |
| CHM 123 | General Chemistry <br> \& 123L | and Gen Chemistry Lab |$\quad 4$


| PHY 201 <br> \& 201L | General Physics and General Physics Lab | 4 |
| :---: | :---: | :---: |
| PHY 202 <br> \& 202L | General Physics and General Physics Lab | 4 |
| Social and Behavioral Sciences |  | 6 |
| ANT 150 or PSY 101 | Cultural Anthropolgy Introductory Psych |  |
| Elective |  |  |
| Select one course from: |  | 3-4 |
| GEO 307 | Geomorphology |  |
| GEO 308 | Probs-Envrmntl Geo |  |
| GEO 309 | Surf\&Groundwtr Hydr |  |
| GEO 450 | Applied GIS |  |
| Select one course from: |  | 6 |
| MTH 148 <br> \& MTH 149 | Introductory Calc I and Introductory Calc II |  |
| MTH 168 <br> \& MTH 169 | Anly Geom \& Calc I and Anly Geom \& Calc II ${ }^{5}$ |  |
| Communication Competencies ${ }^{6}$ |  | 3-9 |
| Electives |  | 0-9 |
| Humanities |  | 9 |
| Philosophy and Religious Studies |  | 12 |
| Other Non-science Elective |  | 0-3 |
| Total Hours - general education courses/academic electives to total at least |  | 120 |
| 1 At least two courses with accompanying laboratory. One non-BIO science course approved for science majors may be included in this section with permission. BIO 499 requires the permission of the EVB Program Director. |  |  |
| 2 Qualifies only as a laboratory elective; satisfies either BIO laboratory elective area. |  |  |
| At least one course with accompanying laboratory. One non-BIO science course approved for science majors may be included in this section with permission. BIO 499 requires the permission of the EVB Program Director. |  |  |
| Other appropriate statistics courses may be substituted with the approval of the Department Chairperson. |  |  |
| MTH 168 - MTH 169 by placement. |  |  |
| If composition requirement is waived, student should select another elective from the Liberal Studies Curriculum. |  |  |
| Minor in Biology (bio) |  |  |
| Biology |  |  |
| $\begin{aligned} & \text { BIO } 151 \\ & \& 151 \mathrm{~L} \end{aligned}$ | Concepts of Bio I and Concepts-Bio Lab I | 4 |
| $\begin{aligned} & \text { BIO } 152 \\ & \& 152 \mathrm{~L} \end{aligned}$ | Concepts of Bio II and Concepts-Bio Lab II | 4 |
| BIO 310 | Ecology | 3 |
| BIO 312 | General Genetics | 3 |
| Select two BIO courses (300/400 level) |  | 6 |
| Total Hours |  | 20 |

## Courses

## BIO 101. General Biology I. 3 Hours

GENERAL BIOLOGY I - Study of the more important biological processes and principles through analysis and synthesis, dealing primarily with the organizational aspects of living things. For the nonscience major.

## BIO 101L. Gen Biology Lab. 1 Hour

GENERAL BIOLOGY LABORATORY I - Examination of biological concepts using basic biological techniques and stressing an investigational and experimental approach. One two-hour laboratory per week. Corequisite(s): BIO 101.

## BIO 151. Concepts of Bio I. 3 Hours

CONCEPTS OF BIOLOGY I: CELL AND MOLECULAR BIOLOGY Study of the molecular and cellular organization of organisms. Topics also include development and genetics. Core biology course.

## BIO 151L. Concepts-Bio Lab I. 1 Hour

 CONCEPTS OF BIOLOGY LABORATORY I: CELL AND MOLECULAR BIOLOGY - An introduction to biological laboratory procedures and instrumentation through a series of observational and experimental exercises at the cellular and molecular level. Core biology course. Corequisite(s): BIO 151.
## BIO 152. Concepts of Bio II. 3 Hours

CONCEPTS OF BIOLOGY II: EVOLUTION AND ECOLOGY - Study of evolution and ecology. Topics include phylogeny, systematics, and conservation. Core biology course. BIO 151 recommended.

## BIO 152L. Concepts-Bio Lab II. 1 Hour

CONCEPTS OF BIOLOGY LABORATORY II: EVOLUTION AND ECOLOGY - An introduction to biological laboratory exercises at the organismal and the system level through a series of observational and experimental exercises in evolution, ecology and behavioral ecology. Core biology course. Corequisite(s): BIO 152.

## BIO 299. Biology Seminar. 1 Hour

BIOLOGY SEMINAR - Introduction to biological journals and abstracting materials. Practice in reviewing, abstracting, and presenting biological information, and career development. Core biology course. Biology and environmental biology majors only. Prerequisite(s): BIO 152.

## BIO 301. Evolution. 3 Hours

EVOLUTION - Theory and evidence of organic evolution, with emphasis on microevolutionary change and population genetics. Prerequisite(s): BIO 152.

## BIO 309. Comp Anat Vertebrts. 3 Hours

COMPARATIVE ANATOMY OF THE VERTEBRATES - Study of changes that have occurred in the vertebrate body with the passage of time, and analysis of their significance. Prerequisite(s): BIO 152.

## BIO 309L. Comp Anatomy Lab. 1 Hour

COMPARATIVE ANATOMY LABORATORY - Dissection and study of the anatomical structure of representative vertebrate animals. One three-hour laboratory per week. Corequisite(s): BIO 309.

## BIO 310. Ecology. 3 Hours

ECOLOGY - Interrelationship of plants, animals, and micro-organisms with the physical-chemical environment: nutrient cycles, energy flow, ecosystems, and factors affecting distribution and abundance of organisms. Core biology course. Prerequisite(s): BIO 152.

## BIO 310L. Ecology Lab. 1 Hour

ECOLOGY LABORATORY - Measurement of population, community, and environmental variables in terrestrial and aquatic systems. The lab is field-based using local ecological resources. One three-hour laboratory per week and weekend field trips. Corequisite(s): BIO 310.

## BIO 311. Intro Entomology. 3 Hours

INTRODUCTORY ENTOMOLOGY - Classification, physiology, ecology, and impact of insects on society. Prerequisite(s): BIO 152.

## BIO 312. General Genetics. 3 Hours

GENERAL GENETICS - Study of the principles of variation and heredity covering both Mendelian and molecular genetics. Core biology course. Prerequisite(s): BIO 152.

## BIO 312L. Genetics Lab. 1 Hour

GENETICS LABORATORY - Exploration of heredity using molecular genetic methods. One three-hour laboratory per week. Corequisite(s): BIO 312.

## BIO 314. Plant Biology. 3 Hours

PLANT BIOLOGY - Consideration of structure, function, reproduction, and inheritance as applicable in the plant patterns of life. Emphasis on the vascular plants. Prerequisite(s): BIO 152.

## BIO 314L. Plant Bio Lab. 1 Hour

PLANT BIOLOGY LABORATORY - Emphasis on generalized structure and function of plants. One three-hour laboratory per week. Corequisite(s): BIO 314.

## BIO 320. Marine Biology. 2 Hours

MARINE BIOLOGY - Introduction to the diversity of marine life including the physical-chemical environment. Prerequisite(s): Permission of instructor. . Corequisite(s): BIO 320L.

## BIO 320L. Marine Biology Lab. 2 Hours

MARINE BIOLOGY LABORATORY - Examination of marine organisms and processes. Laboratory work conducted on UD campus and at off-campus field sites in the southern United States or Hawaii. Prerequisite(s): Permission of instructor. Corequisite(s): BIO 320.

## BIO 330. Animal Behavior. 3 Hours

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(s): BIO 152.

## BIO 330L. Animl Behvr Lab. 1 Hour

ANIMAL BEHAVIOR LABORATORY - Analysis of animal behavior using various animal models. One three-hour laboratory per week and occasional Saturday field trips. Corequisite(s): BIO 330.

## BIO 340. CItr Biodiv\&Res Mgt. 3 Hours

CULTURE, BIODIVERSITY AND RESOURCES MANAGEMENT -
Field lecture course addressing cultural impacts on biodiversity and conciliatory demands for resource management to preserve the integrity of unique global environments. An experiential study of culture, regional geological morphology and weather-patterns, economic development, the freshwater-marine continuum, resource utilization, environmental law and management on conservation of unique biological habitats and organisms. Prerequisite(s): Permission of instructor. Corequisite(s): BIO 340L.

## BIO 340L. CItr Biodiv\&Res Lab. 1 Hour

 CULTURE, BIODIVERSITY AND RESOURCES MANAGEMENT LABORATORY - Lab field course on culture, biodiversity and balanced resource management to preserve integrity of unique global environments and compromises with economic development. Assessment of biodiversity in diverse biomes (e.g. elevational and rainforest-desert gradients, watersheds, coral reef systems) will be assessed with experimental design, data collection and analysis. May fulfill only one laboratory requirement for the Biology major. Prerequisite(s): Permission of instructor. Corequisite(s): BIO 340.
## BIO 350. Applied Microbiology. 3 Hours

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. No science credit for biology majors. Prerequisite(s): BIO 152; CHM 314.

## BIO 350L. Applied Microbio Lab. 1 Hour

APPLIED MICROBIOLOGY LABORATORY - An introductory laboratory to acquaint students with basic microbiology laboratory techniques as applied to environmental pollution and industrial fermentations. One three-hour laboratory per week. Corequisite(s): BIO 350.

## BIO 359. Sustainable Biosphre. 3 Hours

SUSTAINABILITY AND THE BIOSPHERE - Study of the principles of sustainability. All areas of sustainability will be covered with emphasis on ecological facets of sustainability. Discussion of loss of habitat and biodiversity in the context of sustaining natural resources for future generations. Prerequisite(s): BIO 152 or SCI 230.

## BIO 360. Island Environ Bio. 3 Hours

ISLAND ENVIRONMENTAL BIOLOGY - Field lecture course on environments of Pacific Islands. Study of volcanic geology, island morphology/weather-patterns, native culture, economic development, freshwater-marine continuum and water resource utilization on unique biological habitats. Prerequisite(s): Permission of instructor. Corequisite(s): BIO 360L.

## BIO 360L. Island Environ Lab. 1-2 Hours

ISLAND ENVIRONMENTAL BIOLOGY LABORATORY - Lab field course on Pacific Islands. Ecology of elevational and rainforest-desert gradients, volcanic mountain streams, watersheds, and coral systems with experimental design, data collection and analysis. Prerequisite(s): Permission of instructor. Corequisite(s): BIO 360.

## BIO 370. Conservatn Biology. 3 Hours

CONSERVATION BIOLOGY - An ecosystem approach to the study of and threat to local, regional, and global biodiversity. Application of ecological principles of conservation of species and habitats. Prerequisite(s): BIO 152.

## BIO 395. Global Envr Biology. 3 Hours

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. Prerequisite(s): BIO 101 or SCI 190.

## BIO 402. Vertebrate Zoology. 3 Hours

VERTEBRATE ZOOLOGY - The morphology, physiology, ecology, and distribution of representative vertebrate groups. Prerequisite(s): BIO 310 or BIO 312.

## BIO 402L. Vertbrate Zoolgy Lab. 1 Hour

VERTEBRATE ZOOLOGY LABORATORY - Laboratory focused on the diversity, systematics and ecology of vertebrates. One three-hour laboratory per week. Corequisite(s): BIO 402.

## BIO 403. Physiology I. 3 Hours

PHYSIOLOGY I - Physical-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. Prerequisite(s): BIO 152; CHM 314.

## BIO 403L. Physiology Lab. 1 Hour

PHYSIOLOGY LABORATORY I - Systematic approach to the acquisition and interpretation of information about the physiology of living systems.
One three-hour laboratory per week. Corequisite(s): BIO 403.

## BIO 404. Physiology II. 3 Hours

PHYSIOLOGY II - Integrated systems based examination of physiological processes in humans with a special emphasis on molecular mechanisms of pathophysiological conditions in humans and experimental animal systems. Prerequisite(s): BIO 403.

## BIO 407. Plant Div \& Ecol. 3 Hours

PLANT DIVERSITY AND ECOLOGY - Lecture course addressing plant diversity and ecology. Course includes an overview of plant systematics and aspects of plant anatomy, population ecology, community ecology, ecosystem ecology, and global ecology. Prerequisite(s): BIO 310.

## BIO 407L. Plant Div \& Ecol Lab. 1 Hour

PLANT DIVERSITY AND ECOLOGY LABORATORY - Field laboratory course addressing plant diversity and ecology. Includes a series of field labs focused on plant identification, followed by labs focused on quantitatively assessing plants, plant communities, and ecosystems. Labs will take place in a variety of natural areas. Corequisite(s): BIO 407.

## BIO 409. Ecol Restoration. 3 Hours

ECOLOGICAL RESTORATION - Principles and practices of ecological restoration. The course presents the rationale and knowledge needed to understand, appreciate, plan and perform ecological restoration. Prerequisite(s): BIO 310.

## BIO 409L. Ecol Restoration Lab. 1 Hour

ECOLOGICAL RESTORATION LABORATORY - Practical applications of the principles of ecological restoration to a variety of ecosystems. One three-hour laboratory per week. Corequisite(s): BIO 409.

## BIO 411. General Microbiology. 3 Hours

GENERAL MICROBIOLOGY - Introductory course stressing the physiology, cultivation, and classification of microbial organisms; their role in medicine, agriculture, and industry. Prerequisite(s): BIO 152; CHM 313.

## BIO 411L. Gen Microbiology Lab. 1 Hour

GENERAL MICROBIOLOGY LABORATORY - Lab exercises focusing on the basic techniques involved in the isolation and identification of bacteria, including assessment of biochemical activities, growth characteristics of bacteria, and the impact of the environment on microbial growth. One three-hour laboratory per week. Corequisite(s): BIO 411.

## BIO 412. Genetics Human Dis. 3 Hours

GENETICS HUMAN DISEASES - Study of the molecular genetics of inherited human diseases using a systems approach. Survey of inherited diseases linked to major organs and organ systems. Prerequisite(s): BIO 312; CHM 313.

## BIO 415. Neurobiology. 3 Hours

NEUROBIOLOGY - Structure and function of the brain and nervous system. Emphasis on understanding cellular and molecular events within the nervous system using model organisms. Prerequisite(s): BIO 152; CHM 124.

## BIO 420. Seminar. 1 Hour

SEMINAR - Practice in development, presentation, and discussion of papers dealing with biological research problems, and career development. Core biology course. Prerequisite(s): BIO 299, BIO 310, BIO 312.

## BIO 421. Biological Problems. 1-2 Hours

BIOLOGICAL PROBLEMS - Laboratory research problems. Topics arranged with faculty advisors. Prerequisite(s): (BIO 310 or BIO 312); Permission of department chairperson.

## BIO 422. Biological Problems. 1-2 Hours

BIOLOGICAL PROBLEMS - Library research problems. Topics arranged with faculty advisors. Prerequisite(s): (BIO 310 or BIO 312); Permission of department chairperson.

## BIO 425. Paristology. 3 Hours

PARASITOLOGY - Introduction to the morphology, life history, and clinical significance of parasites and other symbionts. Prerequisite(s): BIO 310 or BIO 312.

## BIO 425L. Paristology Lab. 1 Hour

PARASITOLOGY LABORATORY - Recognition of common human parasites. Study of both living and preserved forms. One three-hour laboratory per week. Corequisite(s): BIO 425.

## BIO 427. Immunology. 3 Hours

IMMUNOLOGY - Discussions of antigens, antibodies, antigenicity, immunogenicity, and antigen-antibody reactions including hypersensitivity, immune tolerance, and transplants. Prerequisite(s): (BIO 403 or BIO 411 or BIO 440 or BIO 442) or CHM 420.

## BIO 435. Microbial Ecology. 3 Hours

MICROBIAL ECOLOGY - Study of the diversity and activity of microorganisms and the interrelationships between microorganisms and their environments with emphasis on aquatic ecosystems. Prerequisite(s): BIO 411; CHM 314.

## BIO 435L. Microbial Ecolgy Lab. 1 Hour

MICROBIAL ECOLOGY LABORATORY - Examination of the methods of isolation and enumeration of microorganisms and techniques for determining their activities in the field and laboratory. One three-hour laboratory per week. Corequisite(s): BIO 435.

## BIO 439. Analysis Biol Data. 3 Hours

ANALYSIS AND INTERPRETATION OF BIOLOGICAL DATA Introducing the nature of some of the important types of data that are generated in biological research, the databases that warehouse such data, the principles involved in the analysis of such data, the use of appropriate software to analyze such data, and the biological interpretation of the results of analysis. Prerequisite(s): BIO 152.

## BIO 440. Cell Biology. 3 Hours

CELL BIOLOGY - Study of the function, structure, composition, heredity, and growth of cells. Analysis of cell concepts in biochemical terms.
Prerequisite(s): BIO 152; CHM 314.

## BIO 440L. Cell Bio Lab. 1 Hour

CELL BIOLOGY LABORATORY - Experimental approaches to explore modern concepts in cell structure, function, and biology. One three-hour laboratory per week. Corequisite(s): BIO 440.

## BIO 441. Envirn Plant Bio. 3 Hours

ENVIRONMENTAL PLANT BIOLOGY - Study of the physiological basis for environmental effects on plant metabolism, structure, growth and development, including plant responses to elevated carbon dioxide, acid deposition, and water stress. Prerequisite(s): BIO 310 or BIO 312.

## BIO 442. Developmental Bio. 3 Hours

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. Prerequisite(s): BIO 152; CHM 314.

## BIO 442L. Devlpmntl Bio Lab. 1 Hour

DEVELOPMENTAL BIOLOGY LABORATORY - Exploration of the development of key model organisms from the morphological and molecular perspectives with an emphasis on basic developmental laboratory techniques. One three-hour laboratory per week. Corequisite(s): BIO 442.

## BIO 444. Plant Diversity. 3 Hours

PLANT DIVERSITY - Broad survey of the major divisions of the plant kingdom; consideration of algae, fungi, bryophytes, vascular plant groups; includes generalized life histories, ecological and physiological characteristics, and evolutionary relationships. Prerequisite(s): BIO 310.

## BIO 444L. Plant Diversity Lab. 1 Hour

PLANT DIVERSITY LABORATORY - Laboratory studies of the plant groups, including life cycles and evolutionary, physiological, and ecological adaptations. One three-hour laboratory per week. Corequisite(s): BIO 444.

## BIO 445. Evolution\&DevIpmnt. 3 Hours

EVOLUTION AND DEVELOPMENT - Molecular and population genetic examination of the evolution of animal form. Topics include comparative developmental biology, population genetics, and molecular evolution. Prerequisite(s): BIO 312.

## BIO 450. Comp Animal Physiol. 3 Hours

COMPARATIVE ANIMAL PHYSIOLOGY - Organized on a functionsystem basis, course dealing with environment-organism interaction and with integrative systems of the principle phyla of animals. Prerequisite(s): (BIO 310 or BIO 312); CHM 124.

## BIO 450L. Comp Animal Phys Lab. 1 Hour

COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY - Examination of physiological responses to the physical environment. Variations of the physical environment are examined in the field. Study of animals under controlled laboratory conditions with experimental design, data collection and analysis to assess physiological adaptations. One threehour laboratory or field trip per week. Corequisite(s): BIO 450.

## BIO 452. Bio Rivers \& Lakes. 3 Hours

BIOLOGY OF RIVERS AND LAKES - The biological interrelationships of organisms in rivers, streams, lakes and ponds including biodiversity, ecological/evolutionary adaptations and structure of aquatic ecosystems. Prerequisite(s): BIO 310.

## BIO 452L. Bio River\&Lake Lab. 1 Hour

BIOLOGY OF RIVERS AND LAKES LABORATORY - Laboratory and field exercises emphasizing the biological, chemical and physical attributes of freshwater ecological systems. One three-hour laboratory or field trip per week. Corequisite(s): BIO 452.

## BIO 459. Envirnmntl Ecology. 3 Hours

ENVIRONMENTAL ECOLOGY - The application of current ecological knowledge and principles toward the study of human impact on the environment. Emphasis on ecosystem dynamics, applied ecology, disturbance ecology, and approaches to solving global environmental problems. Prerequisite(s): BIO 310.

## BIO 459L. Envirnmtl Eco Lab. 1 Hour

ENVIRONMENTAL ECOLOGY LABORATORY - Analytical approach to studying applied ecology and human impact on the environment. Emphasis on laboratory and field approaches to solving environmental problems through the use of ecological principles. One three-hour laboratory per week. Corequisite(s): BIO 459.

## BIO 460. Intro Bioinformatics. 3 Hours

INTRODUCTION TO BIOINFORMATICS - This course introduces the concepts involved in bioinformatics, using the appropriate material from the disciplines of biology, chemistry and computer science, among others. Prerequisite(s): BIO 152.

## BIO 461. Invertebrate Zoology. 3 Hours

INVERTEBRATE ZOOLOGY - Survey of the structure, activities, life histories, and relationships of the invertebrate animals, with some emphasis on their origin and development. Prerequisite(s): BIO 310 or BIO 312.

## BIO 461L. Invertbrt Zoology Lab. 1 Hour

INVERTEBRATE ZOOLOGY LABORATORY - Examination of the structure and function of the major invertebrate phyla. Survey of representative animals with an emphasis on observational skills for analysis of the structural adaptations of live animals. One three-hour laboratory per week. Corequisite(s): BIO 461.

## BIO 462. Molecular Biology. 3 Hours

MOLECULAR BIOLOGY - Analysis of the nature of the gene and gene action. Particular attention to genetic regulation and to recent advances in molecular genetics. Prerequisite(s): BIO 312; CHM 314.

## BIO 465. Disease Ecology. 3 Hours

DISEASE ECOLOGY - Examination of ecological factors affecting the emergence and dynamics of infectious diseases of humans and wildlife. History and overview of how diseases are often a product of populations, communities, ecosystems, and global systems. Includes an introduction to epidemiology and current molecular and geographic information system techniques used to study these integrated systems. Prerequisite(s): (BIO 310, BIO 411) or permission of department chairperson or instructor.

## BIO 466. Bio-Infectious Dis. 3 Hours

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(s): BIO 411.

## BIO 470. Cancer Biology. 3 Hours

CANCER BIOLOGY - Study of growth patterns and causes of cancer at the cellular and molecular levels. Discussion of the hereditary and environmental factors that contribute to the development of the disease in cancer patients. Description of the research being conducted to understand and cure the disease. Prerequisite(s): BIO 403 or BIO 440.

## BIO 475. Human Anatomy. 3 Hours

HUMAN ANATOMY - Study of the fundamental principles of human gross anatomy with emphasis on all organ systems. Prerequisite(s): BIO 152; CHM 314.

## BIO 475L. Human Anatomy Lab. 1 Hour

HUMAN ANATOMY LABORATORY - Study of human gross anatomy emphasizing all organs systems using computer-assisted dissection, anatomical human models and occasional dissection of nonhuman cadaver organs. One three-hour laboratory per week. Corequisite(s): BIO 475.

## BIO 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## BIO 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## BIO 479L. Envir Instr Lab. 2 Hours

ENVIRONMENTAL INSTRUMENTATION LABORATORY - The understanding and use of field- and laboratory-based equipment to study current environmental issues. Emphasis on team-centered approaches to investigating environmental problems. Same as GEO 479L. One five-hour laboratory or field trip per week. Prerequisite(s): BIO 310; GEO 116.

## BIO 480. Prin of Microscopy. 3 Hours

PRINCIPLES OF MICROSCOPY - Focus on basic principles and theory of light and electron microscopy, and how these techniques address fundamental questions in science. Prerequisite(s): BIO 152.

## BIO 480L. Microscopy Lab. 1 Hour

PRINCIPLES OF MICROSCOPY LABORATORY - Application and practice of light and electron microscopy. One three-hour laboratory per week. Corequisite(s): BIO 480.

## BIO 489. Mycology. 3 Hours

MYCOLOGY - Introductory course stressing the interrelationship between fungi and the rest of the biological world. Emphasis on the basic biology and ecology of fungi, decomposition, species interactions, plant pathology and medical mycology. Prerequisite(s): BIO 152.

## BIO 496. Special Topics in BIO. 1-3 Hours

SPECIAL TOPICS IN BIOLOGY - Lecture course addressing advanced topics in biology. Topics are variable depending on faculty teaching the course and the course aims. Students should consult the class schedule. May be repeated. Prerequisite(s): BIO 151, BIO 152.

## BIO 499. Env Bio Internship. 3 Hours

ENVIRONMENTAL BIOLOGY INTERNSHIP - Majors will have the opportunity to obtain valuable training and experience under the mentorship of established scientists and professionals. Emphasis on approaches to solving environmental problems including such research areas as bioremediation, risk assessment, and ecological restoration. May be repeated up to six semester hours. No science credit for biology majors. Prerequisite(s): Permission of Environmental Biology Program Coordinator.

## Chemistry

Majors:

- Bachelor of Arts, Chemistry
- Bachelor of Science, Medicinal-Pharmaceutical Chemistry
- Bachelor of Science, Biochemistry
- Bachelor of Science, Chemistry

Minor:

- Chemistry

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 chemistry is approved by the American Chemical Society for the training of professional chemists. Students in the B.S. program in chemistry are 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 three to four 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 six semester hours may be elected provided that the work extends beyond two semesters. Cooperative education students
may substitute work experience for research with the prior approval of the department chairperson.

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 their junior year and culminates with the submission of a research thesis and the presentation of a seminar.

The B.S. program in medicinal-pharmaceutical chemistry is designed to serve students who desire a more focused preparation in the analysis and synthesis of compounds of pharmacological significance. The program will also serve as a solid foundational curriculum for further studies in medicine, pharmacy or forensic chemistry. The thesis and research requirements for the degree are the same as those of the B.S. degree in chemistry, but will ordinarily involve a research experience in synthetic or analytical chemistry.

A minor in chemistry consists of twenty semester hours.

## Faculty

Mark B. Masthay, Chairperson
Professors Emeriti: Fratini, Knachel, Singer
Professors: Keil, Morrow
Associate Professors: Benin, Church, Johnson, Masthay, S. Swavey
Assistant Professors: Crosson, Lopper, Mammana
Visiting Assistant Professor: Turner
Lecturer: Trick
Lab Instructors: Eckerle, Hils, Piepgrass, R. Swavey

## Bachelor of Arts with a major in Chemistry (chm)

| Chemistry ${ }^{1}$ |  |  |
| :---: | :---: | :---: |
| CHM 123 <br> \& 123L | General Chemistry and Gen Chemistry Lab | 4 |
| CHM 124 <br> \& 124L | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Quantitative Anal and Quant Analysis Lab | 4 |
| CHM 302 <br> or CHM 303 <br> \& CHM 304 | Physical Chemistry <br> Physical Chemistry and Physical Chemistry | 3-6 |
| CHM 313 <br> \& 313L | Organic Chemistry and Organic Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chem Lab | 4 |
| CHM 496 | Prof Practice Seminr | 0 |
| Select four CH | electives from: ${ }^{2}$ | 10-13 |
| CHM 317 | Spectro Idn-Org Cmpd |  |
| CHM 341 | Environmental Chem |  |
| CHM 404 | Topics-Physical Chm |  |
| CHM 412 | Intermed Organic Chm |  |
| CHM 415 | Analytical Chemistry |  |
| CHM 415L | Analytical Chem Lab |  |
| CHM 417 | Inorganic Chemistry |  |
| CHM 418L | Inorganic Chem Lab |  |
| CHM 420 | Biochemistry |  |
| CHM 426 | Biosynthetic Org Chm |  |


| CHM 427 | Medicinal Chemistry |
| :--- | :--- |
| CHM 451 | Gen Biochemistry I |
| CHM 452 | Gen Biochemistry II |
| CHM 462L | Biochemistry Lab |
| CHM 477 | Honors Thesis |
| CHM 478 | Honors Thesis |
| CHM 498 | Research \& Thesis |
| CHM 499 | Research \& Thesis |

## Liberal Studies Curriculum

ASI $150 \quad$ Intr to the Univ Exp 1
PHY 201 General Physics 4
$\begin{array}{lll}\& 201 \mathrm{~L} & \text { and General Physics Lab } & \\ \text { PHY } 202 & \text { General Physics } & 4\end{array}$
\& 202L and General Physics Lab
Communication Competencies 3-9
Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 8-9
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Advanced placement is permitted.
2 May substitute two upper level courses from other science departments with permission of chairperson.

## Bachelor of Science in MedicinalPharmaceutical Chemistry (mcm)

Medicinal-Pharmaceutical Chemistry ${ }^{1,2}$

| Year 1 |  |  |
| :--- | :--- | :--- |
| CHM 123 | General Chemistry |  |
| \& 123L | and Gen Chemistry Lab | 4 |
| CHM 124 | General Chemistry <br> \& 124L | and Gen Chemistry Lab |$\quad 4$


| CHM 427 | Medicinal Chemistry | 3 |
| :---: | :---: | :---: |
| CHM 454 | Rational Drug Design | 3 |
| CHM 463L | Bioanalytical Chem Lab | 1 |
| CHM 496 | Prof Practice Seminr | 0 |
| CHM 497 | Research Seminar | 0 |
| Science Requirements |  | 13 |
| Select one course from: ${ }^{5}$ |  |  |
| CHM 412 | Intermed Organic Chm |  |
| CHM 415 <br> \& 415L | Analytical Chemistry and Analytical Chem Lab |  |
| CHM 417 | Inorganic Chemistry |  |
| CHM 418L | Inorganic Chem Lab |  |
| CHM 498 | Research \& Thesis |  |
| Select two lecture courses and one laboratory from: |  |  |
| $\begin{aligned} & \text { BIO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Physiology I and Physiology Lab |  |
| $\begin{aligned} & \text { BIO } 411 \\ & \& 411 \mathrm{~L} \end{aligned}$ | General Microbiology and Gen Microbiology Lab |  |
| $\begin{aligned} & \text { BIO } 440 \\ & \& 440 \mathrm{~L} \end{aligned}$ | Cell Biology and Cell Bio Lab |  |
| Supporting Science Requirements |  |  |
| BIO 151 <br> \& 151L | Concepts of Bio I and Concepts-Bio Lab I | 4 |
| BIO 152 | Concepts of Bio II | 3 |
| MTH 148 <br> \& MTH 149 | Introductory Calc I and Introductory Calc II ${ }^{3}$ | 6 |
| MTH 367 | Statistical Meth I | 3 |
| PHY 201 <br> \& 201L | General Physics and General Physics Lab ${ }^{3}$ | 4 |
| PHY 202 <br> \& 202L | General Physics and General Physics Lab ${ }^{3}$ | 4 |

## Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :--- |
| Arts Study | 3 |  |

Communication Competencies 3-9
History 6

Philiosophy and Religious Studies 12
Social and Behavioral Sciences 6
Total Hours - general education courses/academic electives to total 120 at least

1 Consult General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.
2 Advanced placement is permitted.
3 Substitution of more advanced courses is possible upon consultation with the Department of Chemistry chairperson.
4 Biochemistry courses CHM 451 and CHM 452 may be substituted, with CHM 452 counting as a general elective
5 Chemistry graduate courses or advanced electives from other departments may be selected with the permission of the Department of Chemistry chairperson.
6 If composition requirement is waived, the student should select an English elective. Advanced writing courses are recommended.

## Bachelor of Science with a major in Biochemistry (bcm)

Chemistry ${ }^{1}$
Year 1

| CHM 123 \& 123L | General Chemistry and Gen Chemistry Lab | 4 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { CHM } 124 \\ & \& 124 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| Year 2 |  |  |
| $\begin{aligned} & \text { CHM } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Quantitative Anal and Quant Analysis Lab | 4 |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 L \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chem Lab | 4 |
| Year 3 |  |  |
| $\begin{aligned} & \text { CHM } 303 \\ & \& 303 \mathrm{~L} \end{aligned}$ | Physical Chemistry and Physical Chem Lab | 4 |
| CHM 304 | Physical Chemistry | 3 |
| CHM 451 | Gen Biochemistry I | 3 |
| CHM 452 | Gen Biochemistry II | 3 |
| CHM 462L | Biochemistry Lab | 1 |
| CHM 495 | Intro-Resrch Seminar | 0 |
| Year 4 |  |  |
| CHM 496 | Prof Practice Seminr | 0 |
| CHM 497 | Research Seminar | 0 |
| CHM 498 | Research \& Thesis | 3 |
| Biology 7 |  |  |
| Year 1 |  |  |
| BIO 151 | Concepts of Bio I | 3 |
| $\begin{aligned} & \text { BIO } 152 \\ & \& 152 \mathrm{~L} \end{aligned}$ | Concepts of Bio II and Concepts-Bio Lab II | 4 |
| Year 2 |  |  |

BIO Elective and Laboratory 4

Breadth Requirements
ASI $150 \quad$ Intr to the Univ Exp 1

CPS 132 Progrmmng-Engr \& Sci 3
MTH 168 Anly Geom \& Calc I 4
MTH 169 Anly Geom \& Calc II 4
MTH 218 Anly Geom \& Calc III 4
PHY 206 Gen Physics I Mech 3
PHY 207 Gen Phy II Ele \& Mag 3
PHY 210L Gen Physics Lab I 1
Select three courses from: 10

| BIO 312 | General Genetics |
| :--- | :--- |
| BIO 314 | Plant Biology |
| BIO 403 | Physiology I |
| BIO 404 | Physiology II |
| BIO 411 | General Microbiology |
| BIO 427 | Immunology |
| BIO 440 | Cell Biology |
| BIO 462 | Molecular Biology |


| BIO 466 | Bio-Infectious Dis |  |
| :---: | :---: | :---: |
| CHM 404 | Topics-Physical Chm |  |
| CHM 412 | Intermed Organic Chm |  |
| CHM 415 \& 415L | Analytical Chemistry and Analytical Chem Lab |  |
| CHM 417 | Inorganic Chemistry |  |
| CHM 418L | Inorganic Chem Lab |  |
| CHM 426 | Biosynthetic Org Chm |  |
| CHM 427 | Medicinal Chemistry |  |
| CHM 499 | Research \& Thesis |  |
| Communication Competencies |  | 3-9 |
| Foreign Language |  | 6-8 |
| Humanities |  | 9 |
| Philosophy and Religious Studies |  | 12 |
| Social and Behavioral Sciences |  | 6 |
| Total Hours - general education courses/academic electives to total at least |  | 120 |

1 Advanced placement is permitted.

## Bachelor of Science with a major in Chemistry (chm)

| Chemistry ${ }^{1}$ |  |  |
| :---: | :---: | :---: |
| Year 1 |  |  |
| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 L \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 124 \\ & \& 124 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| Year 2 |  |  |
| $\begin{aligned} & \text { CHM } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Quantitative Anal and Quant Analysis Lab | 4 |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chem Lab | 4 |
| Year 3 |  |  |
| $\begin{aligned} & \text { CHM } 303 \\ & \& 303 \mathrm{~L} \end{aligned}$ | Physical Chemistry and Physical Chem Lab | 4 |
| $\begin{aligned} & \text { CHM } 304 \\ & \& 304 \mathrm{~L} \end{aligned}$ | Physical Chemistry and Physical Chem Lab | 4 |
| CHM 317 | Spectro Idn-Org Cmpd | 1 |
| CHM 417 | Inorganic Chemistry | 3 |
| CHM 418L | Inorganic Chem Lab | 1 |
| CHM 495 | Intro-Resrch Seminar | 0 |
| Year 4 |  |  |
| $\begin{aligned} & \text { CHM } 415 \\ & \& 415 \mathrm{~L} \end{aligned}$ | Analytical Chemistry and Analytical Chem Lab | 4 |
| CHM 420 <br> or CHM 451 <br> \& CHM 452 | Biochemistry <br> Gen Biochemistry I and Gen Biochemistry II | 3 |
| CHM 496 | Prof Practice Seminr | 0 |
| CHM 497 | Research Seminar | 0 |
| CHM 498 | Research \& Thesis | 3 |
| Select two C | ectives from: ${ }^{2}$ | 6 |


| CHM 404 | Topics-Physical Chm |
| :--- | :--- |
| CHM 412 | Intermed Organic Chm |
| CHM 426 | Biosynthetic Org Chm |
| CHM 427 | Medicinal Chemistry |
| CHM 462L | Biochemistry Lab |
| CHM 477 | Honors Thesis |
| CHM 478 | Honors Thesis |
| CHM 499 | Research \& Thesis |

## Breadth Requirements

ASI $150 \quad$ Intr to the Univ Exp 1
PHY 206 Gen Physics I Mech 3
PHY $207 \quad$ Gen Phy II Ele \& Mag 3
PHY 208 Gen Phy III Mec Wavs 3
PHY 210L Gen Physics Lab I 1
PHY 211L Gen Physics Lab II 1
Mathematics, Computer Sciences ${ }^{3} 15$

| CPS 132 | Progrmmng-Engr \& Sci |
| :--- | :--- |
| MTH 168 | Anly Geom \& Calc I |
| MTH 169 | Anly Geom \& Calc II |
| MTH 218 | Anly Geom \& Calc III |

Communication Competencies 3-9
Foreign Language 6-8
Humanities 9
Philosophy and Religious Studies 12
Social and Behavioral Sciences 6
Total Hours - general education courses/academic electives to total 120
at least
1 Advanced placement is permitted.
2 May substitute one approved science course from another department.
3 Should be completed during the first two years.

## Minor in Chemistry (chm)

Chemistry

| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 L \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { CHM } 124 \\ & \& 124 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| CHM 302 | Physical Chemistry | 3 |
| or CHM 303 | Physical Chemistry |  |
| Select three CHM courses (300/400 level) ${ }^{1}$ |  |  |

1 In consultation with the chairperson.

## Courses

CHM 115. College Prep Chm. 3 Hours
COLLEGE PREPARATORY CHEMISTRY - One-term course for students desiring to enter a science or engineering program but whose background is insufficient for CHM 123 and CHM 124. Unacceptable for credit toward chemistry requirements in any chemistry program.

## CHM 115L. College Prep Chm Lab. 1 Hour

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 three-hour laboratory each week.

CHM 123. General Chemistry. 3 Hours
GENERAL CHEMISTRY - Comprehensive treatment of the fundamentals of general chemistry. Prerequisite(s): One year of high school chemistry or equivalent.

## CHM 123L. Gen Chemistry Lab. 1 Hour

GENERAL CHEMISTRY LABORATORY - Laboratory course to complement CHM 123. One three-hour laboratory session each week. Corequisite(s): CHM 123.

## CHM 124. General Chemistry. 3 Hours

GENERAL CHEMISTRY - Comprehensive treatment of the fundamentals of general chemistry. Prerequisite(s): CHM 123.

## CHM 124L. Gen Chemistry Lab. 1 Hour

GENERAL CHEMISTRY LABORATORY - Laboratory course to complement CHM 124. One three-hour laboratory session each week. Prerequisite(s): CHM 123L Corequisite(s): CHM 124.

## CHM 200. Chemistry \& Society. 3 Hours

CHEMISTRY AND SOCIETY - 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. Depending upon background and experience, a student needing a laboratory course may enroll in either CHM 115L or CHM 123L. Prerequisite(s): One year of high school chemistry or equivalent.

## CHM 201. Quantitative Anal. 3 Hours

QUANTITATIVE ANALYSIS - Application of the principles of chemical equilibrium to the theory and techniques of gravimetric, volumetric, spectrophotometric, and electroanalytical methods of chemical analysis. Prerequisite(s): CHM 124, CHM 124L.

CHM 201L. Quant Analysis Lab. 1 Hour
QUANTITATIVE ANALYSIS LABORATORY - Course to accompany CHM 201. One three-hour laboratory period each week.

## CHM 234. Energy Resources. 3 Hours

ENERGY RESOURCES - The chemical and geological aspects of formation, production, and benefits/costs (including environmental impacts) of energy derived from fossil fuels (coal and hydrocarbons), biofuels (e.g., ethanol production), radioactive materials (nuclear power), and renewable sources (e.g., geothermal, hydro, wind, and solar power). Prerequisite(s): CHM 123, CHM 124. Corequisite(s): GEO 208.

## CHM 302. Physical Chemistry. 3 Hours

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, predental, and biology majors. Prerequisite(s): CHM 124.

## CHM 302L. Physical Chem Lab. 1 Hour

PHYSICAL CHEMISTRY LABORATORY - Course to accompany CHM 302. One three-hour laboratory each week. Prerequisite(s): CHM 201, CHM 201L. Corequisite(s): CHM 302.

## CHM 303. Physical Chemistry. 3 Hours

PHYSICAL CHEMISTRY - Fundamentals of thermodynamics, chemical kinetics, electrochemistry, and spectroscopy with a mathematics format. For B.S. chemistry and biochemistry majors and chemical engineers. Prerequisite(s): CHM 201 or equivalent. Corequisite(s): MTH 218.

## CHM 303L. Physical Chem Lab. 1 Hour

PHYSICAL CHEMISTRY LABORATORY - Course to accompany CHM 303. One three-hour laboratory each week. Prerequisite(s): MTH 218.

## CHM 304. Physical Chemistry. 3 Hours

PHYSICAL CHEMISTRY - Fundamentals of thermodynamics, chemical kinetics, electrochemistry, and spectroscopy with a mathematics format. For B.S. chemistry and biochemistry majors and chemical engineers.

## CHM 304L. Physical Chem Lab. 1 Hour

PHYSICAL CHEMISTRY LABORATORY - Course to accompany CHM 304. One three-hour laboratory each week. Corequisite(s): MTH 218.

## CHM 313. Organic Chemistry. 3 Hours

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(s): CHM 124.

## CHM 313L. Organic Chemistry Lab. 1 Hour

ORGANIC CHEMISTRY LABORATORY - Common separation, purification, and analytical techniques including chromatography and spectroscopy. One three-hour laboratory each week. Corequisite(s): CHM 313.

## CHM 314. Organic Chemistry. 3 Hours

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(s): CHM 313.

## CHM 314L. Organic Chem Lab. 1 Hour

ORGANIC CHEMISTRY LABORATORY - Synthesis and characterization of organic materials utilizing skills from CHM 313L. One three-hour laboratory each week. Prerequisite(s): CHM 313L. Corequisite(s): CHM 314.

CHM 317. Spectro Idn-Org Cmpd. 1 Hour
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. Prerequisite(s): (CHM 314, CHM 314L) or equivalent.

## CHM 319L. Adv Org Synthsis Lab. 1 Hour

ADVANCED ORGANIC SYNTHESIS LABORATORY - Preparation of organic compounds by single and multi-step synthetic sequences. Basic techniques in synthesis including use of organometallics, inert atmosphere, temperature control, extraction, vacuum distillation, column chromatography, recrystallization, and spectroscopic characterization methods. One four-hour laboratory each week. Prerequisite(s): CHM 314, CHM 314L.

## CHM 341. Environmental Chem. 3 Hours

ENVIRONMENTAL CHEMISTRY - An introduction to the chemical processes in the environment. Topics include chemical equilibrium in aqueous solution, reaction mechanisms as applied to atmospheric chemistry, and analytical methods commonly applied to environmental samples. Prerequisite(s): CHM 314 or permission of instructor.

## CHM 341L. Environmntl Chm Lab. 1 Hour

ENVIRONMENTAL CHEMISTRY LABORATORY - Laboratory course to accompany CHM 341. Corequisite(s): CHM 341.

## CHM 404. Topics-Physical Chm. 3 Hours

SPECIAL TOPICS IN PHYSICAL CHEMISTRY - Thorough treatment of topics such as electrochemistry, macromolecules, photochemistry, or spectroscopy. May be repeated as topics change. Prerequisite(s): CHM 302 or CHM 303.

## CHM 412. Intermed Organic Chm. 3 Hours

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. Prerequisite(s): CHM 302 or equivalent; CHM 313, CHM 314; senior standing.

## CHM 415. Analytical Chemistry. 2 Hours

ANALYTICAL CHEMISTRY - Chemical analysis based on modern instrumentation. Chromatographic, electrochemical, and spectroscopic methods. Prerequisite(s): CHM 201, CHM 201L; (CHM 302 or CHM 304).

## CHM 415L. Analytical Chem Lab. 2 Hours

ANALYTICAL CHEMISTRY LABORATORY - Course to accompany CHM 415. Two three-hour laboratory sessions each week. Prerequisite(s): CHM 201L; CHM 302 or equivalent.

## CHM 417. Inorganic Chemistry. 3 Hours

INORGANIC CHEMISTRY - An advanced course in modern inorganic chemistry. Atomic structure, principles of bonding and structure, acidbase chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, organometallic compounds, and the chemistry of selected representative elements. Prerequisite(s): CHM 314. Corequisite(s): CHM 302 or CHM 304.

CHM 418L. Inorganic Chem Lab. 1 Hour
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. Prerequisite(s): CHM 201L, CHM 314L. Corequisite(s): CHM 417.

## CHM 420. Biochemistry. 3 Hours

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. Acceptable preparation for medical school. Prerequisite(s): CHM 314.

## CHM 426. Biosynthetic Org Chm. 3 Hours

BIOSYNTHETIC ORGANIC CHEMISTRY - Mechanistic fundamentals of the biosynthesis and transformation of organic natural products, with special emphasis on medicinal compounds, toxins, pheromones and other secondary metabolite structures. Prerequisite(s): (CHM 314, CHM 314 L ) or equivalent.

## CHM 427. Medicinal Chemistry. 3 Hours

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. First term. Prerequisite(s): CHM 314; (CHM 420 or CHM 451).

## CHM 450. Adv Organic Synthesis. 3 Hours

ADVANCED ORGANIC SYNTHESIS - Fundamentals of synthesis and transformations of organic compounds, with emphasis on mechanisms; pericyclic reactions; small and medium ring synthesis; chemoselectivity, regioselectivity, stereoselectivity, retrosynthesis, functional group transformations, carbon-carbon bond forming reactions, oxidations, reductions and protecting groups. Prerequisite: (CHM 314, CHM 314L) or equivalent.

## CHM 451. Gen Biochemistry I. 3 Hours

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. Recommended for students desiring entry into graduate and professional schools. Prerequisite(s): CHM 201, CHM 314.

## CHM 452. Gen Biochemistry II. 3 Hours

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(s): CHM 451.

## CHM 454. Rational Drug Design. 3 Hours

RATIONAL DRUG DESIGN - Introduction to drug target selection, lead compound discovery, and application of structure-activity relationships and computational chemistry towards refinement and optimization of lead compounds and their derivatives. Use of molecular graphics software and publicly available macromolecular structure databases will provide the foundation for evaluating macromolecular models of drug targets and allow a hands-on exploration of the structure/function relationships of proteins that have been successful targets of rational drug design. Prerequisite(s): (CHM 420 or CHM 452) or equivalent.

## CHM 462L. Biochemistry Lab. 1 Hour

BIOCHEMISTRY LABORATORY - Laboratory course to accompany biochemistry lecture courses. Spectrophotometry, pH and dissociation, enzymologic methodology and analytical techniques, chromatographic techniques. Corequisite(s): CHM 420 or CHM 451.

## CHM 463L. Bioanalytical Chem Lab. 1 Hour

BIOANALYTICAL CHEMISTRY LABORATORY - Introduction to analytical methods in current use in biochemistry. Course will focus on separations and spectroscopic methods for the analysis of biomolecules. Prerequisite(s): CHM 201, CHM 201L, CHM 302.

## CHM 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## CHM 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## CHM 490L. Scientifc Glassblowing. 1 Hour

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 three-hour laboratory each week. Grading Option Two. Prerequisite(s): Permission of department chairperson.

## CHM 495. Intro-Resrch Seminar. 0 Hours

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 and biochemistry majors in the B.S. programs. Grading Option two.

## CHM 496. Prof Practice Seminr. 0 Hours

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 and biochemistry majors, both B.S. and B.A.

## CHM 497. Research Seminar. 0 Hours

RESEARCH SEMINAR A - series of seminars as described under CHM 495. Required of all senior chemistry and biochemistry majors in the B.S. programs.

## CHM 498. Research \& Thesis. 3 Hours

RESEARCH AND THESIS - All students in the B.S. programs including co-op students are required to enroll for a minimum of three semester hours in a research course (CHM 498). Students may take additional research semester hours (CHM 499) if the work extends for more than two semesters. Successful completion of research courses requires the submission of a typewritten thesis and the presentation of a seminar. With the prior approval of the department chairperson, B.S. co-op students may substitute work experience for research. Prerequisite(s): Permission of department chairperson.

## CHM 499. Research \& Thesis. 1-3 Hours

RESEARCH AND THESIS - All students in the B.S. programs including co-op students are required to enroll for a minimum of three semester hours in a research course (CHM 498). Students may take additional research semester hours (CHM 499) if the work extends for more than two semesters. Successful completion of research courses requires the submission of a typewritten thesis and the presentation of a seminar. With the prior approval of the department chairperson, B.S. co-op students may substitute work experience for research. Prerequisite(s): CHM 498; permission of department chairperson.

## Communication

Bachelor of Arts, Communication
Concentrations:

- Communication Management
- Communication Studies
- Electronic Media
- Journalism
- Public Relations
- Theatre

Minors:

- Communication
- Political Journalism

The course requirement for communication majors is thirty-nine semester hours. Teacher licensure through the E11A program is an option for communication majors. Consult department chairperson for details.

A minor in communication consists of fifteen semester hours.A minor in political journalism is available for political science majors. The political journalism minor consists of eighteen semester hours. The department also offers a Bachelor of Arts with a major in theatre. See THR.

## Faculty

Jonathan A. Hess, Chairperson
Professors Emeriti: Blatt, Gilvary, Harwood, Lain, Morlan, Wolff Professors: Cusella, Hess, Robinson, Skill, Thompson
Associate Professors: Anderson, Griffin, Scantlin, Wallace, Watters,
Yoder
Assistant Professors: Dunlevy, Han, Langhorne, Taylor, Valenzano, Yang Media Executive in Residence: Walters
Lecturers: Angel, Beran, Billman, Flynn, Henson, Oh, Smith

## Bachelor of Arts with a major in Communication-Communication Management Concentration (cmt)

| Communication Management ${ }^{1,2}$ |  |  |
| :--- | :--- | :--- |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| CMM 113 | Interviewing | 1 |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 320 | Interpersnal Commnctn | 3 |
| CMM 321 | Small Group Commnctn | 3 |
| CMM 330 | Media Writing | 3 |



## Bachelor of Arts with a major in Communication-Communication Studies Concentration (CSS)

| Communication Studies ${ }^{1}$ |  |
| :--- | :--- | :--- |
| CMM $110 \quad$ Group Dec-Making | 1 |


| CMM 111 | Inform Public Sp | 1 |
| :--- | :--- | :---: |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 330 | Media Writing | 3 |
| Select nine courses from CMM or THR | 27 |  |
| Social Science/Professional Studies in a single academic discipline | 4 | 12 |

Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp 1

ENG $100 \quad 6$
\& ENG 200 and Writing Seminar II
or ENG 200H Writing Seminar II
Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 At least twenty-four of the required thirty-nine semester hours in all communication concentrations must be 300-400 level. No more than six total semester hours of CMM 397, CMM 397 and CMM 498 may be applied toward the thirty-nine semester hour requirement.
2 Approved program of study by advisor and department chair must be submitted prior to completion of eighteen semester hours.
3 Dance courses in the theatre program: THR 201, THR 251,THR 261, THR 271, THR 301,THR 351, THR 361, THR 371 do not count toward the thirty-nine semester hour requirement.
4 Twelve semester hours from one of the following: (at least six semester hours at the 300/400 level)

- Anthropology
- Business Administration
- Criminal Justice
- Economics
- Education
- Management
- Marketing
- Political Science
- Psychology
- Social Work
- Sociology
- Visual Arts
- Interdisciplinary Studies


## Bachelor of Arts with a major in Communication-Electronic Media Concentration (RTV)

## Electronic Media ${ }^{1}$

CMM $110 \quad$ Group Dec-Making 1
CMM 111 Inform Public Sp 1

| or CMM 112 | Persuasive Public Sp |  |
| :--- | :--- | :---: |
| CMM 113 | Interviewing | 1 |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 330 | Media Writing | 3 |
| CMM 340 | Fund of Broadcasting | 3 |
| CMM 343 | Scriptwrtng-Elec Med | 3 |
| CMM 397 | Communcatn Practicum ${ }^{2}$ | $1-3$ |

Select one course from: 3

| CMM 341 | Audio Production |
| :--- | :--- |
| CMM 342 | Fund-Video Productn |
| CMM 344 | Multimda Dsgn/Prd I |

Select two courses from:

| CMM 345 | Class Amer Film |
| :--- | :--- |
| CMM 440 | Broadcast News |
| CMM 442 | Adv Television Prod |
| CMM 444 | Multmedia Dsn\&Prd II |
| CMM 446 | Electronic Media Mgt |
| CMM 449 | Top-Electronic Media |
| CMM 498 | Communicatn Intrnshp |
| CMS 414 | Global Communication |

Select three courses from SMM or THR ${ }^{3} \quad 9$

## Liberal Studies Curriculum

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :--- |
| ENG 100 | Writing Seminar I | 6 |
| \& ENG 200 | and Writing Seminar II |  |
| or ENG 200H | Writing Seminar II |  |

Creative and Performing Arts 3
History 6

L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3

Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 At least twenty-four of the required thirty-nine semester hours in all communication concentrations must be 300-400 level. No more than six total semester hours of CMM 390, CMM 397 and CMM 498 may be applied toward the thirty-nine semester hour requirement.
2 Flyer TV or WUDR.
3 Dance courses in the theatre program THR 201,THR 251,THR 261,THR 271,THR 301,THR 351,THR 361,THR 371, do not count toward the thirty-nine semester hour requirement.

4 Twelve semester hours from one of the following: (at least six semester hours at the 300/400 level)

- Anthropology
- Business Administration
- Criminal Justice
- Economics
- Education
- Management
- Marketing
- Political Science
- Psychology
- Social Work
- Sociology
- Visual Arts
- Interdisciplinary Studies


## Bachelor of Arts with a major in Communication-Journalism Concentration (jrn)

| Journalism $^{1,2}$ |  |  |
| :--- | :--- | :--- |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 330 | Media Writing | 3 |
| CMM 331 | Feature Writing | 3 |
| CMM 430 | Copyediting | 3 |
| CMM 431 | Public Affairs Reporting | 3 |
| CMM 432 | Law \& News Media | 3 |
| Select two courses from: | 6 |  |


| CMM 332 | Publication Design |
| :--- | :--- |
| CMM 333 | Free Lance Writing |
| CMM 334 | Sportswriting |
| CMM 412 | Statistcl Mthd-Comm |
| CMM 416 | Devlpmnt-Mass Media |
| CMM 439 | Spec Topics-Journlsm |
| CMM 498 | Communicatn Intrnshp |
| CMS 414 | Global Communication |

Select three courses from CMM or THR ${ }^{2}$
Social Science/Professional Studies in a single academic discipline ${ }^{3} 12$
Liberal Studies Curriculum

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :--- |
| ENG 100 | Writing Seminar I | 6 |


| \& ENG 200 | and Writing Seminar II |
| :--- | :--- |
| or ENG 200H | Writing Seminar II |

Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences
Total Hours - general education courses/academic electives to total 124
at least
1 At least twenty-four of the required thirty-nine semester hours in all
communication concentrations must be 300-400 level. No more than
six total semester hours of CMM 390, CMM 397 and CMM 498 may
be applied toward the thirty-nine semester hour requirement.
2 Dance courses in the theatre program THR 201,THR 251,THR
261,THR 271,THR 301,THR 351,THR 361,THR 371, do not count
toward the thirty-nine semester hour requirement.
3 Twelve semester hours from one of the following: (at least six
semester hours at the 300/400 level

- Anthropology
- Business Administration
- Criminal Justice
- Economics
- Education
- Management
- Marketing
- Political Science
- Psychology
- Social Work
- Sociology
- Visual Arts
- Interdisciplinary Studies


## Bachelor of Arts with a major in Communication- Public Relations Concentration (pub)

| Public Relations |  |  |
| :--- | :--- | :--- |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 330 | Media Writing | 3 |
| CMM 360 | Prin of Pub Reltns | 3 |
| CMM 412 | Statistcl Mthd-Comm | 3 |
| CMM 460 | Public Rel Writing | 3 |
| CMM 461 | Pub Rel Campaigns | 3 |
| Select two courses from: | 6 |  |


| CMM 331 | Feature Writing |
| :--- | :--- |
| CMM 332 | Publication Design |
| CMM 421 | Commnctn-Organztns |
| CMM 430 | Copyediting |
| CMM 469 | Spe Top-Pub Relatns |
| CMM 498 | Communicatn Intrnshp |

Select three courses from CMM or THR ${ }^{2} 9$

Social Science/Professional Studies in a single academic discipline ${ }^{3} 12$

| Liberal Studies Curriculum |  |  |
| :--- | :--- | :--- |
| ASI 150 | Intr to the Univ Exp | 1 |
| ENG 100 | Writing Seminar I | 6 |
| \& ENG 200 | and Writing Seminar II |  |

or ENG $200 \mathrm{H} \quad$ Writing Seminar II
Creative and Performing Arts
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 At least twenty-four of the required thirty-nine semester hours in all communication concentrations must be 300-400 level. No more than six total semester hours of CMM 390, CMM 397 and CMM 498 may be applied toward the thirty-nine semester hour requirement.
2 Dance courses in the theatre program THR 201,THR 251,THR 261,THR 271,THR 301,THR 351,THR 361,THR 371, do not count toward the thirty-nine semester hour requirement.
3 Twelve semester hours from one of the following: (at least six semester hours at the 300/400 level

- Anthropology
- Business Administration
- Criminal Justice
- Economics
- Education
- Management
- Marketing
- Political Science
- Psychology
- Social Work
- Sociology
- Visual Arts
- Interdisciplinary Studies


## Bachelor of Arts with a major in Communication-Theatre Concentration (CTR)

| Theatre $^{1}$ |  |  |
| :--- | :--- | :--- |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 201 | Foun-Mass Communcatn | 3 |
| CMM 202 | Foun-Com Thr\&Rsrch | 3 |
| CMM 330 | Media Writing | 3 |
| THR 203 | Technical Productn | 3 |
| THR 310 | Acting I | 3 |
| THR 340 | Director-Theatre | 3 |
| THR 415 | Hst of the Theatre I | 3 |
| Select two courses from: | 6 |  |


| THR 305 | Theatre Stagecraft |
| :--- | :--- |
| THR 307 | Theatre Lighting |
| THR 323 | Acting II |
| THR 325 | Thry\&Crtcsm Stage: I |
| THR 326 | Thry\&Crtcsm stage:II |
| THR 330 | Concepts Scene Desgn |



## Minor in Communication (cmm)

| Communication |  |  |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| Select four CMM $^{\text {courses (300/400-level) }}{ }^{1}$ | 12 |  |
| Total Hours |  | 15 |

1 In consultation with the chairperson.

## Minor in Political Journalism (poj)

## Political Journalism ${ }^{1}$

CMM 201 Foun-Mass Communcatn

| CMM 330 | Media Writing | 3 |
| :---: | :---: | :---: |
| Select four courses from: |  | 12 |
| CMM 331 | Feature Writing |  |
| CMM 354 | Pol Campaign Comm |  |
| CMM 355 | Rhetoric-Soc Movements |  |
| CMM 431 | Public Affairs Reporting |  |
| CMM 432 | Law \& News Media |  |
| Total Hours |  | 18 |
| 1 Available only to political science majors. |  |  |
| Communication/Social Sciences Courses |  |  |
| CMS 316. Intercultural Comm. 3 Hours |  |  |
| INTERCULTURAL COMMUNICATION - Study of interpersonal |  |  |
| communication with emphasis on people from different countries and with different cultural backgrounds. Focus on the influence of culture on |  |  |
| communication and language, verbal and non-verbal communication similarities and differences from culture to culture, and challenges of |  |  |

## CMS 414. Global Communication. 3 Hours

GLOBAL COMMUNICATION - Introduction to the main topics in the field of global communication. Emphasis on comparative mass media and current issues in global communication. Will not satisfy humanities requirement.

## CMS 415. Women \& Communication. 3 Hours

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. Will not satisfy humanities requirement.

## Communication Courses

CMM 100. Princ of Oral Comm. 3 Hours
PRINCIPLES OF ORAL COMMUNICATION CAP - Pilot: Focuses on the understanding and application of oral communication principles, dialogue, and civility. These principles are applied to situations in which students will explain complex ideas, advocate a position, and engage in civil dialogue with others who might not agree.

CMM 110. Group Dec-Making. 1 Hour
GROUP DECISION MAKING - Communication processes for small decision-making groups. Focus is on the development of general competencies in leadership, group roles, conflict management, agenda setting, problem analysis and research, decision making and critical thinking.

CMM 111. Inform Public Sp. 1 Hour INFORMATIVE PUBLIC SPEAKING - Communication processes for presenting information in a public speaking context. Focus is on the development of general competencies in development and organization of ideas, research, adaptation to an audience, use of PowerPoint, and delivery.

## CMM 112. Persuasive Public Sp. 1 Hour

PERSUASIVE PUBLIC SPEAKING - Communication processes for persuading listeners in a public speaking context. Focus is on the development of general competencies in the construction and organization of persuasive strategies, critical evaluation of arguments and evidence, research, adaptation to an audience, use of PowerPoint, and delivery.

## CMM 113. Interviewing. 1 Hour

INTERVIEWING - Communication processes for information gathering and employment interviewing. Focus is on the development of general competencies in the conduct and organization of interviews, preparation of resumes, evaluation of questions and responses, research, listening, and nonverbal communication.

## CMM 201. Foun-Mass Communcatn. 3 Hours

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.

## CMM 202. Foun-Com Thr\&Rsrch. 3 Hours

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.

## CMM 311. Stds-Oral Perfrmnce. 3 Hours

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.

## CMM 313. Nonverbal Communcatn. 3 Hours

NONVERBAL COMMUNICATION - Survey of theory and research in nonverbal behavior. Examination of the influence of environmental factors, physical behavior, and vocal cues on human communication.

## CMM 315. Interntnl Mass Media. 3 Hours

INTERNATIONAL MASS MEDIA - Focus on the mass media of a particular foreign country or region of the world. Topics may include media content, use, societal effects and ownership.

## CMM 320. Interpersnal Commnctn. 3 Hours

INTERPERSONAL COMMUNICATION - Study of communication behavior in a variety of dyadic relationships including acquaintance, friendship, work, romantic, and family. Focus on communicative behavior and communicative processes in relationship development including building trust, managing conflict, negotiating power, and listening empathetically.

CMM 321. Small Group Commnctn. 3 Hours
SMALL GROUP COMMUNICATION - Examination of theory and research related to communicative processes in small, task-oriented groups. Applications include a focus upon decision-making strategies, leadership, conflict management, and cohesion. Prerequisite(s): CMM 110.

## CMM 322. Intervwng-Comm \& Bus. 3 Hours

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. Prerequisite(s): CMM 113.

## CMM 330. Media Writing. 3 Hours

MEDIA WRITING - Developing and practicing writing skills for journalism, public relations, and electronic media. Study and practice of ethics in determining news values, gathering information, and communicating clearly and accurately for mass audiences. AP style emphasized. Studio fee.

## CMM 331. Feature Writing. 3 Hours

FEATURE WRITING - Developing and writing nonfiction stories for newspapers and magazines. Story types include personality profile, color, background, consumer, and commentary. Study and practice in journalistic reporting skills and literary writing techniques. Emphasis on content, organization, style, and accuracy. Strong command of AP style necessary. Prerequisite(s): CMM 330.

## CMM 332. Publication Design. 3 Hours

PUBLICATION DESIGN - Layout and design of print and electronic publications, including newsletters, brochures, and web-based publications. Instruction in desktop and web publishing software, use of type and illustration, cost appraisal, printing methods. Studio fee.

## CMM 333. Free Lance Writing. 3 Hours

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.

## CMM 334. Sportswriting. 3 Hours

SPORTSWRITING - In addition to game stories, attention is also paid to writing about personalities, legal issues, and financial issues on the interscholastic, intercollegiate, amateur, and professional levels. Strong writing skills and knowledge of journalistic style expected. Prerequisite(s): CMM 330.

## CMM 340. Fund of Broadcasting. 3 Hours

FUNDAMENTALS OF BROADCASTING - Survey of broadcasting, with emphasis on television and radio networks, programming, regulation, audience measurement, audience effects, and technology. Although attention is given both to the origins and future of the field, contemporary broadcasting is emphasized.

## CMM 341. Audio Production. 3 Hours

AUDIO PRODUCTION - Study of the theories, processes, and technologies of audio production practices that can be applied in radio, television, and multimedia production. Exercises in recording of voice, music, and special effects. Course includes the operation of basic studio and field equipment, including analog and basic digital recording and editing. Studio fee.

## CMM 342. Fund-Video Productn. 3 Hours

FUNDAMENTALS OF VIDEO PRODUCTION - Explores the techniques of studio and remote video production. Includes the technical and creative aspects of planning and script preparation, producing, directing, technical directing, graphics, editing, camera, lighting, and sound for a variety of video programs. Studio fee.

## CMM 343. Scriptwrtng-Elec Med. 3 Hours

SCRIPTWRITING 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 including corporate media writing. Prerequisite(s): CMM 330 or permission of instructor.

## CMM 344. Multimda Dsgn/Prd I. 3 Hours

MULTIMEDIA DESIGN AND PRODUCTION I - Introduction to producing in the interactive media of CD-ROM and other digital formats. Reviews basic object linking and embedding in familiar computer programs such as Word, PowerPoint, and Freelance Graphics. Students build skills in multimedia authoring, using all the fundamental tools of graphics, text, audio, and video. Studio fee.

## CMM 345. Class Amer Film. 3-6 Hours

CLASSIC AMERICAN FILM - Topics course surveying the artistic evolution of American film. Includes the analysis of styles of producing, scripting, acting, directing, lighting, sound, cinematography, set design and editing through viewing of classic American films and selected international films that have influenced the art of American filmmaking. May be repeated once as topics change. Fee.

## CMM 350. Propaganda Analysis. 3 Hours

PROPAGANDA ANALYSIS - Examination of major propaganda campaigns in history beginning with Greek democracy. Emphasis on twentieth century propaganda as psychological warfare. Principles of Aristotelean rhetorical theory applied to propaganda analysis.

## CMM 351. Public Speaking. 3 Hours

PUBLIC SPEAKING - Oral communication in professional situations. Adaptation of principles of effective speaking to specific audiences and occasions. Delivery of informational, problem-solving, and specialoccasion speeches. Prerequisite(s): CMM 111 or CMM 112.

## CMM 352. Persuasion. 3 Hours

PERSUASION - Study of the use of communication to form attitudes. Examination of attitudes and social influence and their effects on human behavior. Topics include selected theories of persuasion, argument construction, and practical application.

## CMM 354. Pol Campaign Comm. 3 Hours

POLITICAL CAMPAIGN COMMUNICATION - Examination of theory and research on the role, processes and effects of communication in political campaigns with emphasis on mass media, public speaking, debates, advertising, and interpersonal communications.

## CMM 355. Rhetoric-Soc Movements. 3 Hours

RHETORIC OF SOCIAL MOVEMENTS - Study of rhetorical communication in American social movements through examination of the strategies, themes and tactics used by agitators and the institutional responses to discourse aimed at social change.

## CMM 360. Prin of Pub Reltns. 3 Hours

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.

CMM 390. Independent Study. 1-3 Hours
INDEPENDENT STUDY - Supervised study involving directed readings, individual research (library, field, or experimental), or projects in the specialized areas of communication. May be repeated for up to six semester hours. Prerequisite(s): Permission of department chairperson.

CMM 397. Communcatn Practicum. 1-3 Hours
COMMUNICATION PRACTICUM - Contracted participation in an approved on-campus communication organization. One semester hour per term to a maximum of three semester hours. Grading Option Two only.

## CMM 410. Family Communication. 3 Hours

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.

## CMM 411. Health Communication. 3 Hours

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.

## CMM 412. Statistcl Mthd-Comm. 3 Hours

STATISTICAL METHODS IN COMMUNICATION - Study of data gathering methods in communication. Practice in sampling, survey methods, questionnaire development, and experimental design. Emphasis on the use of logic to interpret data and to support claims.

## CMM 413. Comm in Infrmtn Age. 3 Hours

COMMUNICATION IN THE INFORMATION AGE - Examination of issues related to development, economics, programming, and the future of new mass communication technologies. Prerequisite(s): CMM 201 or permission of instructor.

## CMM 416. Devlpmnt-Mass Media. 3 Hours

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.

## CMM 420. Comm \& Conflict Mgt. 3 Hours

COMMUNICATION AND CONFLICT MANAGEMENT - Examination of the functions of communication in interpersonal conflict such as marital conflict, role conflict, and organizational conflict. Communicative strategies and tactics for managing conflict.

## CMM 421. Commnctn-Organztns. 3 Hours

COMMUNICATION IN ORGANIZATIONS - Analysis of message initiation, diffusion, and reception in organizations; analysis of the role of communication in developing productive work relationships, management practices, and organizational cultures.

## CMM 430. Copyediting. 3 Hours

COPYEDITING - Editing, particularly news copy editing and headline writing. Emphasis on clear and concise wording; proper spelling, grammar, and punctuation; and accuracy. Strong command of AP style necessary. Prerequisite(s): CMM 330.

## CMM 431. Public Affairs Reporting. 3 Hours

PUBLIC AFFAIRS REPORTING - Investigative and specialized reporting on matters of public concern. Practice in gathering information from primary and secondary sources, and writing about complex subjects for mass audiences. Prerequisite(s): CMM 330.

## CMM 432. Law \& News Media. 3 Hours

THE LAW AND NEWS MEDIA - Exploration of the free press clause of the First Amendment, as defined by the courts and media practice. Study of First Amendment core values and theories. Investigation into law on libel, privacy, censorship, access to information, and copyright, as well as regulation of broadcast, cable and new electonic media. Prerequisite(s): Junior standing.

## CMM 439. Spec Topics-Journlsm. 3-6 Hours

SPECIAL TOPICS IN JOURNALISM - Concentrated study in special areas of journalism. May be repeated with change of topic.

## CMM 440. Broadcast News. 3 Hours

BROADCAST NEWS - Study of the process and practice of news gathering and writing for radio and television. Course includes research, analysis, writing and editing news and features, as well as legal and ethical concerns of broadcast news. Studio fee. Prerequisite(s): CMM 330, CMM 342.

## CMM 442. Adv Television Prod. 3 Hours

ADVANCED TELEVISION PRODUCTION - Advanced techniques of both studio and electronic field production and post-production editing for television. Studio fee. Prerequisite(s): CMM 342.

## CMM 444. Multmedia Dsn\&Prd II. 3 Hours

MULTIMEDIA DESIGN AND PRODUCTION II - Advanced level multimedia production emphasizing client-based project generation through a design/production team approach. Focus is on interface design; project planning, script writing, story boarding; digital image, sound and video editing; and the use of authoring software. Studio fee. Prerequisite(s): CMM 344.

## CMM 446. Electronic Media Mgt. 3 Hours

ELECTRONIC MEDIA MANAGEMENT - Survey of the leadership/ management roles and responsibilities of broadcasting, cable television and corporate media enterprises. Prerequisite(s): CMM 340.

## CMM 449. Top-Electronic Media. 3 Hours

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.

## CMM 452. Pub Discourse \& Crit. 3 Hours

PUBLIC DISCOURSE AND CRITICISM - Examination of the foundations of the field of communication. Major focus on the development of rhetorical theory with attention to rhetorical analysis and criticism.

## CMM 460. Public Rel Writing. 3 Hours

PUBLIC RELATIONS WRITING - Study, development and application of public relations strategies. Emphasis on strategically effective, factually accurate and grammatically sound written communications for organizational and mass audiences. Prerequisite(s): CMM 330, CMM 360.

## CMM 461. Pub Rel Campaigns. 3 Hours

PUBLIC RELATIONS CAMPAIGNS - Students plan and carry out a public relations program for an established professional organization, work out solutions to communication and public relations problems, and prepare written campaign materials and handbooks. Prerequisite(s): CMM 330, CMM 360, CMM 460; senior standing.

## CMM 469. Spe Top-Pub Relatns. 3 Hours

SPECIAL 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. Prerequisite(s): CMM 360 or permission of instructor.

## CMM 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## CMM 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Progam in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## CMM 498. Communicatn Intrnshp. 1-6 Hours

COMMUNICATION INTERNSHIP - Communication work experience in an approved organization. Student must be in good academic standing. Students are normally limited to a maximum of three semester hours. Under exceptional circumstances, students may petition the department chair for an additional three semester hours if the second internship is at a different organzation and the student can demonstrate that the position offers a unique and significant educational opportunity not available through the first internship. Grading Option Two only. Prerequisite(s): CMM 110, (CMM 111 or CMM 112), CMM 113, CMM 201, CMM 202, CMM 330; permission of department chairperson.

## CMM 499. Sp Top-Communication. 3-6 Hours

SPECIAL TOPICS IN COMMUNICATION - Concentrated study in specific areas of speech communication. May be repeated once with change of topic.

## Computer Science

## Majors:

- Bachelor of Science, Computer Information Systems
- Bachelor of Scence, Computer Science

Minors:

## - Computer Information Systems <br> - Computer Science

The Department of Computer Science offers two programs leading to a Bachelor of Science degree in either Computer Science or Computer Information Systems. Both programs require the same introductory core sequence of courses in Computer Science. The main differences between the two programs are in the mathematics and science requirements and in the application emphases.

## 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 architecture. Each student must take appropriate upper-level electives to ensure depth in at least three of the core subject areas of data structures, software design, programming language concepts and architecture as arranged with the student's advisor.

## Computer Information Systems

This program emphasizes computer science concepts with particular attention to systems analysis and design, and includes a concentration area chosen by the student in consultation with the student's advisor.
These B.S. programs provide a foundation for students to embark on successful careers in a variety of computing disciplines, including software development, system design, database management, artificial intelligence, computer networking, systems programming and systems administration. In addition, graduates will be prepared to pursue graduate study in Computer Science and related disciplines.
Computer Science and Computer Information Systems majors are required to attain grades of C - or better in the following courses: CPS 150, CPS 151 and CPS 350.

A minor in computer science consists of twenty semester hours. A minor in computer information systems consists of twenty-three semester hours.

## Faculty

Dale Courte, Chairperson
Professors Emeriti: Kester, Lang, Winslow
Professor: Sritharan
Associate Professors: Buckley, Courte, Gowda, Perugini, Smith, Assistant Professor: Yao
Visiting Assistant Professor: Gothard Lecturer: Sanyal
Bachelor of Science with a major in
Computer Information Systems (cis)
Computer Science

| CPS 150 | Algorthm\&Progrm I | 4 |
| :--- | :--- | :---: |
| CPS 151 | Algorthm\&Progrm II | 4 |
| CPS 242 | User Interface Desgn | 3 |
| CPS 250 | Intro-Comptr Org | 3 |
| CPS 310 | Systems Analysis | 3 |
| CPS 312 | Systems Design | 3 |
| CPS 341 | Discrete Structures | 3 |
| CPS 346 | Operating Systems I | 3 |
| CPS 350 | Data Struct\&Algorthm | 3 |
| Select four CPS courses (343 level or above) | 12 |  |
| Concentration:an approved minor, or these courses: <br> ACC 207$\quad$ Intro-Financial Acc | $15-27$ |  |
| ACC 208 | Intro-Managerial Acc |  |
| ECO 203 | Prin of Microecon |  |
| ECO 204 | Prin of Macroecon |  |
| MGT 301 | Organiztnl Behavior |  |
| MKT 300 | Survey of MKT |  |

Breadth Requirements
ASI $150 \quad$ Intr to the Univ Exp 1
PHL 319 Information Ethics 3

| Mathematics ${ }^{1}$ |  | 9 |
| :---: | :---: | :---: |
| MTH 148 | Introductory Calc I |  |
| MTH 149 | Introductory Calc II |  |
| MTH 367 | Statistical Meth I |  |
| Communication Competencies |  | 3-9 |
| Humanities ${ }^{1}$ |  | 9 |
| Natural Sciences ${ }^{1}$ |  | 8 |
| Philosophy and Religious Studies ${ }^{1}$ |  | 9 |
| Social and Behavioral Sciences ${ }^{1}$ |  | 6 |
| Total Hours - general education courses/academic electives to total at least |  | 120 |

Communication Competencies ..... 3-9
Humanities ${ }^{1}$ ..... 9
Natural Sciences ${ }^{1}$ ..... 8
Philosophy and Religious Studies ${ }^{1}$ ..... 9
Social and Behavioral Sciences ${ }^{1}$ ..... 6
Total Hours - general education courses/academic electives to total ..... 120
at least

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

## Bachelor of Science with a major in Computer Science (cps)

## Computer Science

| CPS 150 | Algorthm\&Progrm I | 4 |
| :--- | :--- | :---: |
| CPS 151 | Algorthm\&Progrm II | 4 |
| CPS 242 | User Interface Desgn | 3 |
| CPS 250 | Intro-Comptr Org | 3 |
| CPS 341 | Discrete Structures | 3 |
| CPS 346 | Operating Systems I | 3 |
| CPS 350 | Data Struct\&Algorthm | 3 |
| CPS 387 | Comp System Desgn I | 3 |
| Select six CPS courses (300/400 level) ${ }^{1}$ | 18 |  |

Breadth Requirements

| CPS 353 | Numerical Methods I ${ }^{2}$ | 3 |
| :--- | :--- | :--- |
| or MTH 310 | Lin Alg \& Matrices |  |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 367 | Statistical Meth I | 3 |
| PHL 319 | Information Ethics | 3 |
| Select one natural sciences group from: | 8 |  |


| BIO 151 | Concepts of Bio I |
| :--- | :--- |
| \& 151L | and Concepts-Bio Lab I |
| \& BIO 152 | and Concepts of Bio II |
| \& BIO 152L | and Concepts-Bio Lab II |
| CHM 123 | General Chemistry |
| \& 123L | and Gen Chemistry Lab |
| \& CHM 124 | and General Chemistry |
| \& CHM 124L | and Gen Chemistry Lab |
| GEO 115 | Physical Geology |
| \& 115L | and Physical Geology Lab |
| \& GEO 116 | and Geolgcl Hst-Earth |
| \& GEO 116L | and Geolgcl Hst-Earth Lb |
| PHY 206 | Gen Physics I Mech |
| \& PHY 207 | and Gen Phy II Ele \& Mag |
| \& PHY 210L | and Gen Physics Lab I |
| \& PHY 211L | and Gen Physics Lab II |

\& 151L and Concepts-Bio Lab I
\& BIO 152 and Concepts of Bio II
\& BIO 152L and Concepts-Bio Lab II
CHM 123 General Chemistry
\& 123L and Gen Chemistry Lab
\& CHM 124 and General Chemistry
\& CHM 124L and Gen Chemistry Lab
GEO 115 Physical Geology
\& 115L and Physical Geology Lab
\& GEO 116 and Geolgcl Hst-Earth
\& GEO 116L and Geolgcl Hst-Earth Lb
PHY 206 Gen Physics I Mech
\& PHY 207 and Gen Phy II Ele \& Mag
\& PHY 210L and Gen Physics Lab I
\& PHY 211L and Gen Physics Lab II

CPS 150 Algorthm\&Progrm I 4
CPS 151 Algorthm\&Progrm II 4
CPS 242 User Interface Desgn 3
CPS $250 \quad$ Intro-Comptr Org 3
CPS 341 Discrete Structures 3
CPS 346 Operating Systems I 3
CPS 350 Data Struct\&Algorthm 3
CPS 387 Comp System Desgn I 3

MTH 169 Anly Geom \& Calc II 4
MTH $218 \quad$ Anly Geom \& Calc III 4
MTH 367 Statistical Meth I 3
PHL 319 Information Ethics 3
Select one natural sciences group from: 8


| Communication Competencies | $3-9$ |
| :--- | :---: |
| Humanities | 9 |
| Natural Sciences ${ }^{3}$ | 6 |
| Philiosophy and Religious Studies | 9 |
| Social and Behavioral Sciences | 6 |
| Total Hours - general education courses/academic electives to total <br> at least | 120 |

1 These courses must cover three distinct topical areas as defined by the department.
2 CPS 353 will not count towards major requirement.
3 Select two acceptable courses for Science or Engineering majors.

## Minor in Computer Information Systems (cis)

| Computer Information Systems |  |  |
| :--- | :--- | :--- |
| CPS 150 | Algorthm\&Progrm I | 4 |
| CPS 151 | Algorthm\&Progrm II | 4 |
| CPS 242 | User Interface Desgn | 3 |
| CPS 310 | Systems Analysis | 3 |
| CPS 312 | Systems Design | 3 |
| Select two CPS courses (320 level or above) | 6 |  |
| Total Hours |  | 23 |

## Minor in Computer Science (cps)

| Computer Science |  |  |
| :--- | :--- | :---: |
| CPS 150 | Algorthm\&Progrm I | 4 |
| CPS 151 | Algorthm\&Progrm II | 4 |
| CPS 350 | Data Struct\&Algorthm | 3 |
| Select three CPS courses (320 level or above, excluding CPS 437) | 9 |  |
| Total Hours | 20 |  |

## Courses

## CPS 107. Intro Comp Science. 3 Hours

INTRODUCTION TO COMPUTER SCIENCE - An introduction to the field of Computer Science, covering computers and society, the internals and externals of computer hardware and software, as well as some exposure to advanced topics of artificial intelligence, computer forensics, and databases. Intended for science and engineering students.

## CPS 111. Intro-Personal Comp. 3 Hours

INTRODUCTION TO PERSONAL COMPUTERS - Emphasis on use of operating system, particularly file organization, and applications: word processor, spreadsheet, database and presentation software.

## CPS 132. Progrmmng-Engr \& Sci. 3 Hours

COMPUTER PROGRAMMING FOR ENGINEERING AND SCIENCE Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Calculusbased computer solutions of problems from science and engineering using C++. Corequisite(s): MTH 168.

CPS 144. Intro-Computr Progrm. 3 Hours 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 Visual Basic.

## CPS 150. Algorthm\&Progrm I. 4 Hours

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.

## CPS 151. Algorthm\&Progrm II. 4 Hours

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(s): CPS 150.

CPS 242. User Interface Desgn. 3 Hours
USER INTERFACE DESIGN - The importance and challenges of user interface design in software development are discussed and Graphical User Interfaces (GUI) are developed using an appropriate programming language. Reading assignments cover interface design issues and programming assignments focus on event-driven programming, exception handling, GUI development, web and multi-media applications, and data persistence. Prerequisite(s): CPS 151.

## CPS 250. Intro-Comptr Org. 3 Hours

INTRODUCTION TO COMPUTER ORGANIZATION - Computer organization and architecture are studied from a software perspective. Data representation, program translation and execution are examined in the context of the classic von Neumann architecture. Programming projects involving both a higher-level language and an assembly language reinforce the architecture concepts. Prerequisite(s): CPS 151.

## CPS 309. Special Topics. 1-4 Hours

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 majors/minors.

## CPS 310. Systems Analysis. 3 Hours

SYSTEMS ANALYSIS - Methodologies for producing software, software development life cycles, top-down approach, data flow diagram, data dictionary, mini-specifications, in/output design, E-R diagrams, normalization, introduction to object oriented analysis. Prerequisite(s): CPS 151 or CPS 225.

## CPS 312. Systems Design. 3 Hours

SYSTEMS DESIGN - Structured design, tools of structured design, coupling and cohesion of modules, transform and transaction analyses, packaging, optimization, data-oriented and object oriented design methodologies, automated design tools. Prerequisite(s): CPS 310.

## CPS 341. Discrete Structures. 3 Hours

DISCRETE STRUCTURES - Logic and proofs, sets and counting, Boolean algebra, graph theory, directed graphs, mathematical machines, formal languages and grammars. Prerequisite(s): CPS 150.

## CPS 343. Comparatve Languages. 3 Hours

COMPARATIVE LANGUAGES - Language design issues, formal syntax specification, data types and storage methods, activation records and procedural object oriented, functional, and logic programming paradigms. Prerequisite(s): CPS 350.

## CPS 346. Operating Systems I. 3 Hours

OPERATING SYSTEMS I - Semaphores, conditions, monitors, and kernels. Concurrent programming, interrupts, memory, and process management. Design and implementation of multithreaded and distributed system components using concurrent languages. Prerequisite(s): CPS 250, CPS 350.

## CPS 350. Data Struct\&Algorthm. 3 Hours

DATA STRUCTURES AND ALGORITHMS - Advanced concepts of linear data structures, stacks, queues, and abstract data types. Basic and advanced concepts of trees, graphs, hash tables, heaps, algorithm design and analysis techniques. Prerequisite(s): CPS 151.

## CPS 353. Numerical Methods I. 3 Hours

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. Prerequisite(s): (CPS 132 or CPS 150); MTH 169.

## CPS 387. Comp System Desgn I. 3 Hours

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 control, arithmetic, logic, and storage units. Instruction set, addressing modes and CPU design. Laboratory experiments with these devices. Prerequisite(s): CPS 250, CPS 341.

## CPS 415. Software Testing. 3 Hours

SOFTWARE TESTING - Detailed examination of the software testing process and its role in the software lifecycle. Topics include functional testing, structural testing, methods for designing, generating and evaluating test data, coverage hierarchies, theoretical and practical limitations of testing, testability measures, regression testing, and specialized testing such as methods for testing object oriented software, graphical user interfaces. Prerequisite(s): (CPS 310 or CPS 418); CPS 341, CPS 350

## CPS 420. Obj-Orient Sys Dev. 3 Hours

OBJECT ORIENTED SYSTEMS DEVELOPMENT - An overview of object-oriented analysis and design methodologies and Unified Modeling Language (UML), Use Case Model, Logical Model, Component Model, Deployment Model and Design Patterns. The course will involve a team project using a state-of-the-art Computer Aided Software Engineering (CASE) tool. Prerequisite(s): CPS 310, CPS 350.

## CPS 422. Software Proj Mgmt. 3 Hours

SOFTWARE PROJECT MANAGEMENT - An overview of software project management tasks, software development methodologies, project planning techniques, algorithimic cost estimation models, Function Point Estimation, risk management, prototyping, management of software reuse, software maintenance, quality assurance, configuration management, Capability Maturity Model (CMM), and evaluation of CASE tools. Prerequisite(s): CPS 310 or CPS 418.

## CPS 424. Discrte Evnt Simultn. 3 Hours

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(s): CPS 151.

## CPS 430. Database Mgt Sys I. 3 Hours

DATABASE MANAGEMENT SYSTEMS - Physical and logical organization of databases: the entity-relationship model; relational database model; the data definition and data manipulation language of a commercial database management system; integrity constraints; conceptual database design. Prerequisite(s): CPS 350.

## CPS 432. Database Mgt Sys II. 3 Hours

DATABASE MANAGEMENT SYSTEMS II - Study of query execution and optimization, transaction management, concurrency control, recovery and security techniques. Advanced data models and emerging trends in database systems, like object oriented database systems, distributed database systems, the client-server architecture, multidatabase and heterogeneous systems. Other current database topics and emerging technologies will be discussed. Prerequisite(s): CPS 430.

## CPS 437. Sys Arch \& Netwrkng. 3 Hours

SYSTEM ARCHITECTURES AND NETWORKING - Issues and techniques used in the physical design of computer-based information systems. Basic operating systems, hardware architecture and networking prinicples. Intended for students majoring in MIS; not open to students majoring in CPS, CIS, or PCS. Prerequisite(s): MIS 380, MIS 385.

## CPS 444. Systms Progrmng I. 3 Hours

SYSTEMS PROGRAMMING I - Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in mathematical and nonnumeric areas. Prerequisite(s): CPS 346, CPS 350.

## CPS 460. Computer Graphics. 3 Hours

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. Prerequisite(s): CPS 350.

## CPS 470. Data Communications. 3 Hours

DATA COMMUNICATIONS - Basic hardware and software architectural components for computer communications. Analysis of communication protocol layers with respect to performance, error handling and control functions. Switching, routing, multiprocessing and distributed processing. Case studies of existing networks and network architectures. Prerequisite(s): CPS 350.

## CPS 472. Computer Networking. 3 Hours

COMPUTER NETWORKING - Continuation of CPS 470. Concepts and analysis of computer networks. Network applications, security and network management. Network topologies and case studies.
Prerequisite(s): CPS 346, CPS 470.

## CPS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## CPS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## CPS 480. Artificl Intellgnce. 3 Hours

ARTIFICIAL INTELLIGENCE - Basic concepts and techniques of intelligent systems. Emphasis on representations, problem solving, search strategies, expert systems, mVgic systems, and AI programming. Design and implementation of AI applications. Prerequisite(s): CPS 350.

## CPS 481. Adv Artificl Intell. 3 Hours

ADVANCED ARTIFICIAL INTELLIGENCE - An examination of several advanced sub-disciplines of Artificial Intelligence including areas such as speech recognition, planning, machine learning, advanced multiple agent systems and related topics. An exploration of underlying theoretical issues as well as the status of current problems and applications. Prerequisite(s): CPS 480.

## CPS 482. Automata Theory. 3 Hours

AUTOMATA THEORY - Finite automata, sequential machines, survey of formal languages, introduction to computability, recursive functions, and Turing machines. Prerequisite(s): CPS 341.

## CPS 496. Cooperative Educatn. 1-3 Hours

COOPERATIVE EDUCATION - Computer science cooperative education work experience in an approved organization. Not open to students with credit in CPS 497. Credit does not apply to major requirements. Repeat to a maximum of three semester hours. Prerequisite(s): Twelve hours of upper-level CPS courses with a GPA of 3.0; total ninety semester hours with a GPA of 2.75 ; permission of the department in advance of the work.

## CPS 497. Internship. 1-3 Hours

INTERNSHIP - Computer science work experience in an approved organization. Not open to students with CPS 496 credit. Credit does not apply to major requirements. Repeat to a maximum of three semester hours. Prerequisite(s): Twelve semester hours of upper-level CPS courses with GPA of 3.0; total ninely semester hours and 2.75 GPA; permission of department in advance of the work.

## CPS 498. Problems. 1-4 Hours

PROBLEMS IN COMPUTER SCIENCE - Individual readings and research in a specialized area. (See CPS 499.) By arrangement. May be taken more than once for additional credit. Prerequisite(s): Permission of department chairperson.

## CPS 499. Special Topics. 1-4 Hours

SPECIAL TOPICS IN COMPUTER SCIENCE - Lectures or laboratory work in such areas as advanced artificial intelligence, computer architecture, information retrieval, microprogramming, multiprogramming techniques, numerical analysis, graphics, data communications, parallel processing, software development, distributed computing, multimedia computing. By arrangement. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## Criminal Justice Studies

Major:

- Bachelor of Arts, Criminal Justice

Minor:

## - Criminal Justice

Criminal Justice is the scientific study of crime, deviance, and the agencies of the criminal justice system. The Bachelor of Arts with a major in criminal justice studies, is a broadly structured interdisciplinary and criminological curriculum designed to introduce students to:

1. A critical theory of criminal justice/criminology and
2. Requisite knowledge for public service, e.g., law enforcement and/ or investigative services at the local, state and national levels; careers in the correctional field, community programs, and other rehabilitative services, as well as staff positions in the judiciary system; and
3. Preparation for pursuing advanced study in a criminological graduate program or law school.

In addition to courses in criminal justice studies, students take courses in political science, psychology, sociology, and social work.
Those who enter the University of Dayton as first-year students, or as transfers without associate degrees, will be classified under Option A, a total program sequence. Students who transfer here with acceptable associate degrees in specific fields similar or closely related to criminal justice will be classified under Option $B$, a transfer program sequence. All students transferring into the curriculum must be in good academic standing and meet entry requirements.
A minor in criminal justice studies consists of eighteen semester hours.
Students intending to major or minor in CJS should consult with the program director to begin planning their CJS program. 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 studies program. The Criminal Justice Studies Program is a part of the Department of Sociology, Anthropology, and Social Work.

## Criminal Justice Committee

Arthur J. Jipson, Director
Additional faculty who teach in the Criminal Justice Studies Program are located in several social science departments including: Sociology, Anthropology, and Social Work; Psychology; and Political Science. Faculty who teach in the program: Apolito (Criminal Justice Studies/ Sociology), Becker (Sociology), Berry (Psychology), Cassiman (Social Work), Davis-Berman (Social Work), Donnelly (Sociology), Forbis (Sociology), Ghere (Political Science), Ingram (Political Science), Longazel (Sociology), Majka, L. (Sociology), Majka, T. (Sociology),

Martorano Miller (Political Science), Neeley (Political Science), Pierce (Political Science), Reeb (Psychology), Thompson-Miller (Sociology)

## Bachelor of Arts with a major in Criminal Justice Studies-Option A (cjs)

| Criminal Justice Studies ${ }^{1}$ |  |
| :---: | :---: |
| CJS 101 | Intro to CJS |
| CJS 207 | Resrch Mthds in CJS ${ }^{2}$ |
| CJS 347 | Sr Project Design |
| CJS 447 | Senior Project-CJS |
| SOC 305 | Criminological Thry |
| Select two behavior courses from: |  |
| PSY 363 | Abnormal Psychology |
| PSY 461 | Curr Impl-Drug Depnd |
| SOC 325 | Deviant Behavior |
| SOC 327 | Criminology |
| SOC 410 | Victimology |
| SWK 325 | Child Abuse |

Select two institutions courses from: 6
CJS 303 Corrections

POL 303 State \& Local Govt
POL 305 Intro To Public Adm
POL 360 Urban Politics
SOC 323 Juvenile Justice
SWK 305 Soc Ser Health Field
Select two law courses from: 6
CJS 305 Criminal Law
CJS 315 Criminal Procedure
POL 301 Amer Judicl Process
POL 411 Constitutional Law
POL 450 Civil Liberties
SOC 326 Law \& Society
Select two social structure courses from: 6
CJS 322 Policing \& Society
CJS 336 Comp Crim Jus Systms
SOC 328 Racial\&Eth Minorties
SOC 339 Social Inequality
SOC $351 \quad$ Urban Sociology
Liberal Studies Curriculum

| ASI 150 | Intr to the Univ Exp | 1 |
| :---: | :---: | :---: |
| ENG 316 | Elements of Style | 3 |
| ENG 370 | Rprt\&Proposal Wrtng | 3 |
| or ENG 372 | Business Commicatn |  |
| or ENG 474 | Argumentation |  |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| L2 Proficiency (Proficiency in a language other than English) |  | 0-11 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) ${ }^{3}$ |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 12 |

Social Sciences
Total Hours - general education courses/academic electives to total 124 at least

1 Internships and independent studies may be taken in CJS, POL, PSY, and SOC that have a Criminal Justice Studies emphasis. No more than six semester hours of internships may be taken. Also to be offered is CJS 300 Criminal Justice Studies Career Development, CJS 399, Special Topics in Criminal Justice Studies and CJS 497, Service Learning Experience. This course work is in addition to the thirty-six hours required for a CJS interdisciplinary major in the Option A, total program sequence. They are not to be used as substitute courses for those listed in the areas of behavior, institutions, law and/or social structure, unless approved in advanced by the director of the Criminal Justice Studies program and the College of Arts and Sciences.
2 May substitute SOC 208, POL 207, or PSY 217.
3 CJS 207, Research Methods in Criminal Justice Studies, requires as a prerequisite MTH 207 or PSY 216 or SOC 308. Neither PSY 216 nor SOC 308 fills the three semester hours mathematics requirement for graduation.

## Bachelor of Arts with a major in Criminal Justice Studies-Option B (cjs)

## Criminal Justice ${ }^{1,2}$

| CJS 207 | Resrch Mthds in CJS $^{3}$ | 3 |
| :--- | :--- | :--- |
| CJS 347 | Sr Project Design | 1 |
| CJS 447 | Senior Project-CJS | 3 |
| SOC 305 | Criminological Thry | 3 |
| Select one behavior course from: | 3 |  |


| PSY 363 | Abnormal Psychology |
| :--- | :--- |
| PSY 461 | Curr Impl-Drug Depnd |
| SOC 325 | Deviant Behavior |
| SOC 327 | Criminology |
| SOC 410 | Victimology |
| SWK 325 | Child Abuse |

Select one institutions course from: 3
CJS 303 Corrections
POL 303 State \& Local Govt
POL 305 Intro To Public Adm
POL 360 Urban Politics
SOC 323 Juvenile Justice
SWK 305 Soc Ser Health Field
Select one law course from: 3
CJS 305 Criminal Law
CJS 315 Criminal Procedure
POL 301 Amer Judicl Process
POL 411 Constitutional Law
POL 450 Civil Liberties
SOC 326 Law \& Society
Select one social structure course from:
CJS 322 Policing \& Society
CJS 336 Comp Crim Jus Systms
SOC 328 Racial\&Eth Minorties
SOC 339 Social Inequality

| SOC 351 | Urban Sociology |  |
| :---: | :---: | :---: |
| Liberal Studies Curriculum |  |  |
| ENG 316 | Elements of Style | 3 |
| ENG 370 | Rprt\&Proposal Wrtng | 3 |
| or ENG 372 | Business Commicatn |  |
| or ENG 474 | Argumentation |  |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| L2 Proficiency (Proficiency in a language other than English) |  | 0-11 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) ${ }^{3}$ |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 2 |
| Social Sciences |  | 2 |
| Total Hours - general education courses/academic electives to total 124 at least ${ }^{4}$ |  |  |
| 1 To be admitted as a major in the 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. For criminal justice studies majors who have completed the basic requirements for an accredited two-year criminal justice degree, sixty semester hours beyond the associate degree is suggested, which includes a minimum of twenty-one semester hours in the program. The Liberal Studies Curriculum is required for all criminal justice studies transfer majors in addition to the baccalaureate degree requirements if they were not included in the candidates' associate degree programs. |  |  |
| Internships and Independent Studies may be taken in CJS, POL, PSY, and SOC that have a criminal justice studies emphasis. No more than six semester hours of internships may be taken. Also to be offered is CJS 300 Criminal Justice Studies Career Development, CJS 399, Special Topics in Criminal Justice Studies and CJS 497, Service Learning Experience. This course work is in addition to the hours required for a CJS interdisciplinary major in the Option B, transfer program sequence. They are not to be used as substitute courses for those listed in the areas of behavior, institutions, law and/or social structure, unless approved in advance by the director of the Criminal Justice Studies program and the College of Arts and Sciences. |  |  |
| 3 CJS 207, Research Methods in Criminal Justice Studies, requir as a prerequisite MTH 207 or PSY 216 or SOC 308. Neither PSY 216 nor SOC 308 fills the three semester hours mathematics requirements for graduation. May substitute SOC 208, POL 207 PSY 217 for CJS 207. |  |  |
| 4 To be considered a viable candidate for graduation, a student must have completed a minimum of 124 semester hours with accepted transfer credits. |  |  |
| Minor in | minal Justice Studies |  |

Criminal Justice Studies

| CJS 101 | Intro to CJS | $3-4$ |
| :--- | :--- | :---: |
| SOC 305 | Criminological Thry | 3 |


| ${\text { Select four CJS courses }(300 / 400 \text { level })^{1}}^{1}$ | 12 |
| :--- | :---: |
| Total Hours | $18-19$ |
| 1 | One course from each of the four areas involving behavior, |

## Courses

CJS 101. Intro to CJS. 3-4 Hours
INTRODUCTION TO CRIMINAL JUSTICE STUDIES - Introduction to the field of criminal justice studies, stressing the theoretical foundations, origin, nature, methods, and limitations of criminal justice studies as a college curriculum.

## CJS 207. Resrch Mthds in CJS. 3 Hours

RESEARCH METHODS IN CRIMINAL JUSTICE STUDIES - 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 are also examined. Prerequisite(s): MTH 207 or PSY 216 or SOC 308.

## CJS 300. CJS-Career Development. 1 Hour

 CRIMINAL JUSTICE STUDIES CAREER DEVELOPMENT - Exploration of career opportunities and the professional career placement process including setting goals and identifying educational objectives, noting professional concerns, the role of a given criminal justice organization, and assessing experiences.
## CJS 303. Corrections. 3 Hours

CORRECTIONS - The administration of correctional institutions and other detention facilities with emphasis on probation and parole systems to include the rehabilitation and treatment of the incarcerated with reference to correctional law cases.

## CJS 305. Criminal Law. 3 Hours

CRIMINAL LAW - Principles of criminal liability, preparation of case materials, court procedures, and case disposition.

## CJS 315. Criminal Procedure. 3 Hours

CRIMINAL PROCEDURE - Fundamentals of criminal procedure: arrest, search, and seizure; interrogation, constitutional limitations upon state and federal rules of criminal procedure. Prerequisite(s): A course in criminal law.

## CJS 322. Policing \& Society. 3 Hours

POLICING AND SOCIETY - Analyzes the history of policing in society and assesses the social and political forces that are correlated with both the rise of formal policing and the variety of structures law enforcement agencies have assumed. Reviews the primary functions of policing in American society and examines those issues affecting federal, state, county, municipal and private policing.

## CJS 336. Comp Crim Jus Systms. 3 Hours

COMPARATIVE CRIMINAL JUSTICE SYSTEMS - Survey of cross-cultural uniformities and diversities in law-enforcement agencies, correctional systems, and the courts in selected countries. Prerequisite(s): An introductory course in criminal justice.

## CJS 347. Sr Project Design. 1 Hour

SENIOR PROJECT DESIGN - Preparation for the criminal justice capstone course with a focus on a workable research topic, literature review, and research methods design. Required for Criminal Justice majors. Prerequisites: SOC 208 or POL 207 or PSY 217; SOC 305 (may be taken as a corequisite).

## CJS 399. Spe Topics in CJS. 1-3 Hours

SPECIAL TOPICS IN CRIMINAL JUSTICE STUDIES - An extensive examination of a current topic affecting the criminal justice system and its law enforcement, corrections or judicial components. May be repeated to a maximum of three semester hours when the topic changes.

## CJS 440. Independent Study. 3 Hours

INDEPENDENT STUDY - Directed study and research on selected topics of significant academic publications in law enforcement and criminal justice. Prerequisite(s): An introductory CJS course; permission of instructor.

## CJS 447. Senior Project-CJS. 3 Hours

SENIOR SEMINAR IN CRIMINAL JUSTICE STUDIES - Capstone experience in criminal justice studies consisting of a seminar on research and writing in criminology and criminal justice, an empirical research project of the student's choosing, and a written and oral presentation of the research.

## CJS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## CJS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved CJS 477; approval of University Honors Program.

## CJS 495. Internship -CJS I. 1-3 Hours

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 studies majors only; in-service students do not qualify. Students who enroll for internship credit are not given a stipend. Credit granted only under Grading Option Two. Prerequisite(s): 2.5 cumulative grade-point average; sophomore status; permission of program director.

CJS 496. Internship-CJS II. 1-3 Hours
INTERNSHIP IN CRIMINAL JUSTICE II - Continuation of CJS 495.

## CJS 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Criminal Justice Studies. No more than three semester hours of Social Science 497 credits can count for graduation. Repeatable up to three semester hours. Prerequisite(s): Permission of instructor. Corequisite(s): CJS course (300- or 400-level).

## Economics

Major:

## - Bachelor of Arts, Economics

Minor:

## - Economics

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.

The field of economics covers topics ranging from making sound business decisions to tackling some of society's most challenging social issues. Economics students learn to think critically about how choices are made in the presence of scarcity. An undergraduate education in economics enables individuals to better understand and help resolve problems in today's business and society.

The major in economics requires thirty semester hours of courses in economics: ECO 203, 204, 346, 347, 490, and five elective courses in economics.

A minor in economics is also available, requiring eighteen semester hours of courses in economics: ECO 203, ECO 204, ECO 346, ECO 347 and two elective courses in economics.
Information on a specialized degree, applied mathematical economics, (MTE) is offered by the Department of Mathematics.
Faculty
John Rapp, Chairperson
Edmund B. O'Leary Chair in Economics: John Ruggiero
Professors: Caporole, Frasca, Rapp, Ruggerio
Associate Professors: Gustafson, Poitras
Asistant Professor: Collier
Lecturer: John

## Bachelor of Arts with a Major in Economics (ECO)

| Economics |  |  |
| :---: | :---: | :---: |
| ECO 203 | Prin of Microecon ${ }^{1}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{1}$ | 3 |
| ECO 346 | Intrmd MicroEco Anly ${ }^{2}$ | 3 |
| ECO 347 | Intrmd MacroEco Anly | 3 |
| ECO 490 | Sr Sem-Applied Eco | 3 |
| ECO electives ( | 00/400 level) | 15 |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Mathematics ${ }^{3}$ |  | 6-9 |
| MTH 138 | Calc I with Review ${ }^{4}$ |  |


| or MTH 148  <br> MTH 207 Introductory Calc I <br> Intro to Statistics ${ }^{5}$  |  |
| :--- | :--- | :---: |
| Communication Competencies | $3-9$ |
| Creative and Performing Arts | 3 |
| History | 6 |
| L2 Proficiency (Proficiency in a language other than English) | $0-11$ |
| Literature | 3 |
| Natural Sciences | 11 |
| Philosophy and Religious Studies | 12 |
| Social Sciences (excluding ECO courses) | 12 |
| Total Hours - general education courses/academic electives to total | 124 | at least

1 Economics majors must earn a C or better in this course. ECO 300 and an upper level ECO course can substitute for ECO 203 and ECO 204.
2 ECO 340 may be substituted for ECO 346 with permission of the department chairperson.
3 In addition, MTH 149 strongly recommended.
4 MTH 168 or MTH 128-129 may be substituted with permission of department chairperson.
5 May substitute DSC 210-211.

## Minor in Economics (ECO)

| Economics |  | 3 |
| :--- | :--- | :---: |
| ECO 203 | Prin of Microecon ${ }^{1}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{1}$ | 3 |
| ECO 346 | Intrmd MicroEco Anly ${ }^{2}$ | 3 |
| ECO 347 | Intrmd MacroEco Anly | 6 |
| Select two ECO courses (300/400 level) | 18 |  |

1 ECO 300 and an upper level ECO course can substitute for ECO 203 and ECO 204.
2 ECO 340 may be substituted for ECO 346 with permission of department chairperson.

## Courses

## ECO 203. Prin of Microecon. 3 Hours

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.

## ECO 204. Prin of Macroecon. 3 Hours

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.

## ECO 301. Sem in Market Econ. 3 Hours

SEMINAR IN MARKET ECONOMICS - Market solutions to economic and political issues. Topics vary, but may include issues relating to drugs, gun control, environmental concerns, government interventions, economic and political freedom, and others. Team taught course. Prerequisite(s): ECO 203.

## ECO 340. Managerial Economics. 3 Hours

MANAGERIAL ECONOMICS - Application of economic models to managerial decision making. Topics include demand analysis, forecasting demand, short-run cost analysis, long-run cost and production functions, pricing, and risk and uncertainty. May not get credit for both ECO 340 and ECO 346. Prerequisite(s): ECO 203.

## ECO 346. Intrmd MicroEco Anly. 3 Hours

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, and welfare economics. May not get credit for both ECO 346 and ECO 340. Prerequisite(s): ECO 203.

## ECO 347. Intrmd MacroEco Anly. 3 Hours

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(s): ECO 204; ECO 203 recommended.

## ECO 390. Antitrust Economics. 3 Hours

ANTITRUST ECONOMICS - Study of how economic analysis has been applied in the interpretation of the antitrust statutes. Examines major antitrust laws and relevant case law; reviews economic theories of market behavior. Prerequisite(s): ECO 203.

## ECO 410. Bus\&Eco Forecasting. 3 Hours

BUSINESS AND ECONOMIC FORECASTING - Forecasting techniques, including ARIMA time series models, econometric models, moving averages, exponential smoothing, and time series decomposition, are used to forecast business and economic variables. Data sources, selection of appropriate forecasting tools and models, and evaluation of forecast results are studied. Prerequisite(s): ECO 203, ECO 204; Statistics (DSC 211 or MTH 207 or MTH 367 or MTH 412).

## ECO 415. Game Thry w/Fin App. 3 Hours

GAME THEORY WITH BUSINESS APPLICATIONS - Introductory course in strategic decision making; provides a thorough discussion of the basic techniques of applied game theory and of systematic thinking in making business decisions. Among the topics covered with applications to business are equilibrium strategies, understanding situations involving conflict and cooperation, auction design and bidding strategy, and bargaining and negotiations. Prerequisite(s): ECO 203.

## ECO 435. Eco of Environmnt. 3 Hours

ECONOMICS OF THE ENVIRONMENT - Introduction to the economics of the global environment including an analysis of market failure as a cause of environmental degradation. Topics covered include costbenefits analysis, criteria for public investment, regulation of the environment, and the sustainable global environment. Prerequisite(s): ECO 203.

## ECO 441. Econometrics. 3 Hours

ECONOMETRICS - Training in the art of making economic measurements from empirical data using regression analysis as the principle tool; use of computer software to estimate and test regression equations; interpretation of results using statistical inference. Prerequisite(s): (ECO 203, ECO 204; differential calculus and basic statistics) or permission of instructor.

## ECO 442. Money and Banking. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 445. Public Finance. 3 Hours

PUBLIC FINANCE - The economic aspects of government finance at the local, state, and especially the 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. Prerequisite(s): ECO 203, ECO 204.

## ECO 460. Eco Develop \& Growth. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 461. International Econ. 3 Hours

INTERNATIONAL ECONOMICS - Major issues surrounding international trade and finance, the economic interdependence of nations and businesses, essential theoretical and empirical tools necessary to monitor and analyze international economic phenomena, and the application of these tools to contemporary business problems and issues. Prerequisite(s): ECO 203, ECO 204.

## ECO 471. Labor Economics. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 480. Sports Economics. 3 Hours

SPORTS ECONOMICS - The application of economic analysis to the sports industry. Examines demand and efficiency in the product market; the labor market for professional athletes and mechanisms for restricting competition in that market; problems in achieving an efficient allocation of resources in the sports industry. Prerequisite(s): ECO 203; (DSC 211 or MTH 207) or equivalent.

## ECO 485. Urban\&Regional Econ. 3 Hours

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(s): ECO 203; (DSC 211 or MTH 207); ECO 346 recommended.

## ECO 488. Prod Eco\&Perf Evltn. 3 Hours

PRODUCTION ECONOMICS AND PERFORMANCE EVALUTAION Intermediate course in theoretical and applied microeconomic production theory; provides a thorough discussion of the basic techniques of applied production theory and performance evaluation of decision making units. Topics include returns to scale, technical and allocative efficiency, benchmarking, environmental costs, and programming. Prerequisite(s): ECO 203.

## ECO 490. Sr Sem-Applied Eco. 3 Hours

SENIOR SEMINAR IN APPLIED ECONOMICS - Economic analysis applied in an area of topical interest chosen by the instructor; includes the application of theoretical, mathematical, and statistical methods mastered in previous economics courses. This capstone course provides students an opportunity to extend their proficiency in economic analysis through application and discussion in a small group setting. Typically offered during the spring semester. Economics or Business Economics majors only. Prerequisite(s): Twelve semester hours in Economics.

## ECO 491. Honors Thesis. 3 Hours

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.

## ECO 492. Honors Thesis. 3 Hours

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.

## ECO 494. Seminar. 3 Hours

SEMINAR - Subject varies from time to time. May be taken more than once if topic changes. Prerequisites to be announced.

## ECO 496. Co - Op Work Term. 3 Hours

COCOPERATIVE 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. Economics or Business Economics majors only. Prerequisite(s): Permission of department chairperson.

## ECO 497. Internship. 1-3 Hours

INTERNSHIP FOR GENERAL ELECTIVE CREDIT - Practical work experience associated with career development and career exploration relating to the student's major. Permission of the department chair or designee required. Does not replace economics courses for the economics major. Economics or Business Economics majors only. Prerequisite(s): Forty-five semester hours of credit.

## ECO 498. Independent Stdy-Eco. 1-6 Hours

INDEPENDENT STUDY IN ECONOMICS - Directed readings and research in selected fields of economics. The number of semester hours 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(s): 3.0 GPA in economics with a minimum of nine semester hours in economics; nomination by faculty; permission of the department chairperson.

## English

Major:

- Bachelor of Arts, English

Minor:

- English

The University requirement in English composition is satisfied by the completion of ENG 100, ENG 200 or ENG 200 H . Completing this requirement is a prerequisite for 200- and 300-level English courses. For placement information, see Reading and Writing General Competencies requirements in Section V. For additional details, consult the department chairperson or the director of writing programs.

Students majoring in English must complete at least thirty-six semester hours of English courses, including first-year composition, and at least twenty-four semester hours at the 300/400 level.

A minor in English consists of twelve semester hours.
Students in B.A. programs can pursue State of Ohio teacher licensing in Integrated Language Arts through the Teacher Licensure Program conducted in conjunction with the Department of Teacher Education. Candidates must meet set standards for admission to this program, which must be verified by the Transfer Officer in the Office of the Dean, School of Education and Allied Professions. For further information, consult the Department of English chairperson.
The English department awards a writing certificate to students who achieve a 3.0 grade-point average in eighteen semester hours of approved writing and writing-related courses, including at least twelve semester hours of upper-divisional (300-400) courses, and who pass a final examination including an impromptu essay. For details, consult the department chairperson.

## Faculty

Sheila Hassell Hughes, Chairperson
R. Andrew Slade, Director of Graduate Studies

Susan Trollinger, Director of Writing Programs
Professors Emeriti: August, Henninger, Labadie, H. Martin, Means, Murphy, Palumbo, Patrouch, Stockum, Youngkin
Professors: Farrelly, Kimbrough, K. Marre, Pici, Wilhoit
Associate Professors: Bardine, Boehnlein, Carrillo, Hughes, Krummel, McCombe, Morgan, Potter, Strain, Trollinger
Assistant Professors: Haan, Li, Slade, Szeghi, Thomas, Vorachek
Lecturers: Adams, Biswas, Burnside, Casola, DeAloia, Doench, Getrost, Keane-Sexton, MacKay, MacLeod, E. Martin, Stephens, Taaffe

## Bachelor of Arts with a major in English (eng)

| English |  |
| :--- | :--- |
| Select from: |  |
| ENG 100 | Writing Seminar I |
| \& ENG 200 | and Writing Seminar II |
| or ENG 200H | Writing Seminar II |
| ENG 300 | Lit AnI\&Rsrch-Poetry |
| ENG 301 | Survey-Early Eng Lit |
| ENG 302 | Survey-Later Eng Lit |
| ENG 305 | Survey-American Lit |
| ENG 362 | Shakespeare |



English

| ${\text { Select four ENG courses }(300 / 400 \text { level })^{1}}^{12}$ |  |
| :--- | :---: |
| Total Hours | 12 |

1 In addition to the composition requirement.

## Courses

## ENG 100. Writing Seminar I. 3 Hours

WRITING SEMINAR I - Introductory composition course focused on personal and academic literacies, with an emphasis on expository writing. Instruction and practice in developing college-level reading, writing, research, and critical thinking skills. Emphasis is on a process approach to writing effective academic prose. Students must pass the course with a grade of C- or higher to satisfy the University requirement in general reading and writing competencies.

## ENG 100A. Writing Seminar IA. 2 Hours

WRITING SEMINAR 1A - First half of year-long introductory composition course focused on personal and academic literacies, with an emphasis on expository writing. Instruction and practice in developing college-level reading, writing, research, and critical thinking skills. Emphasis is on a process approach to writing effective academic prose. Students must pass the course with a grade of C- or higher to satisfy the University requirement in general reading and writing competencies. Prerequisite(s): Placement as determined by the Office of the Dean.

## ENG 100B. Writing Seminar 1B. 2 Hours

WRITING SEMINAR 1B - Second half of year-long introductory composition course focused on personal and academic literacies, with an emphasis on expository writing. Instruction and practice in developing college-level reading, writing, research, and critical thinking skills.
Emphasis is on a process approach to writing effective academic prose. Students must pass the course with a grade of C- or higher to satisfy the University requirement in general reading and writing competencies. Prerequisite(s): ENG 100A.

## ENG 101. Collg Composition I. 3 Hours

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. Students must pass course with a grade of C - or higher to satisfy the University requirement in general reading and writing competencies.

## ENG 102. Collg Composition II. 3 Hours

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. Students must pass the course with a grade of C - or higher to satisfy the University requirement in general reading and writing competencies. Prerequisite(s): ENG 101.

## ENG 151. Intro to Literature. 3 Hours

INTRODUCTION TO LITERATURE - Critical study of literary forms fiction, drama, and poetry - representative of various eras and cultures. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 101)or ASI 110) or equivalent. ENG 100 or ENG 100B may be taken as a corequisite.

## ENG 198. ENG Scholars Sem. 3 Hours

ENGLISH SCHOLARS' 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 Berry Scholars Program. Students must pass the course with a grade of C- or higher to satisfy the University requirement in general reading and writing competencies.

## ENG 200. Writing Seminar II. 3 Hours

WRITING SEMINAR II - Variable theme composition course focused on academic discourse, research, and argumentation. Instruction and practice in developing reading, writing, and research skills introduced in ENG 100 and employed across the curriculum. Emphasis is on rhetorical analysis and a process approach to writing effective academic arguments. Students must pass the course with a grade of C - or higher to satisfy the University requirement in general reading and writing competencies. Prerequisite(s): ENG 100 or (ENG 100A, ENG 100B); sophomore standing or placement as determined by the Office of the Dean.

## ENG 200H. Writing Seminar II. 3 Hours

WRITING SEMINAR II - Variable theme composition course focused on academic discourse, research, and argumentation. Instruction and practice in developing reading, writing, and research skills introduced in ENG 100 and employed across the curriculum. Emphasis is on rhetorical analysis and a process approach to writing effective academic arguments. Students must pass the course with a grade of C - or higher to satisfy the University requirement in general reading and writing competencies. Prerequisite(s): Placement as determined by the Office of the Dean.

## ENG 203. Maj British Writers. 3 Hours

MAJOR BRITISH WRITERS - Study of four or five writers representative of the principal periods in English literature. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 204. Major Amer Writers. 3 Hours

MAJOR AMERICAN WRITERS - Study of four or five writers representative of the principal periods in American literature. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 205. Major World Writers. 3 Hours

MAJOR WORLD WRITERS - Study (in translation) of four or five writers representative of the principal periods in (chiefly Western world) literature, exclusive of English and American literature. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 210. Poetry. 3 Hours

POETRY - Study of representative examples of a major literary genre. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 230. Topics-Literature. 1-6 Hours

TOPICS IN LITERATURE - Exploration of varying approaches to the study of literature. Can be repeated under special circumstances. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 242. Sophomore Honors. 3 Hours

SOPHOMORE HONORS - Seminar in which selected works from the literature of Western civilization are studied. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 270. Rdg\&Wrtg in Amer Univ. 4 Hours

READING AND WRITING IN THE AMERICAN UNIVERSITY - Provides students who are English language learners with an understanding of rhetorical principles and the conventions of Western academic literacy as well as competence in applying those principles and conventions for success as writers in an American university. Prerequisite(s): Permission of department chairperson.

## ENG 271. Technical Writng Lab. 2 Hours

TECHNICAL WRITING LABORATORY - Designed to complement Engineering Technology courses by analyzing representative technical reports and documents and by providing guidance in planning, drafting, and revising writing assignments. Its focus is on the discipline-specific types of writing in the professional technical/engineering fields including laboratory reports, correspondence, technical descriptions, specifications, and proposals. Prerequisite(s): ENG 270.

## ENG 271L. Tech Writing Lab. 2 Hours

TECHNICAL WRITING LABORATORY - Designed to complement Engineering Technology courses by analyzing representative technical reports and documents and by providing guidance in planning, drafting, and revising writing assignments. Its focus is on the discipline-specific types of writing in the professional technical/engineering fields including laboratory reports, correspondence, technical descriptions, specifications, and proposals. Prerequisite(s): ENG 270.

## ENG 272. Writing \& Research. 3 Hours

WRITING AND RESEARCH - Study and practice of research methods commonly required to complete writing assignments across the curriculum. Formulation of research questions, use of appropriate methods to gather data, analysis of information, and creation of effective written documents. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent.

## ENG 282. Intro-Writing Poetry. 3 Hours

INTRODUCTION TO WRITING POETRY - Beginning course in analyzing and writing poetry. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 284. Intro-Writng Fiction. 3 Hours

INTRODUCTION TO WRITING FICTION - Beginning course in analyzing and writing short fiction. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 286. Intro-Writing Drama. 3 Hours

INTRODUCTION TO WRITING DRAMA - Beginning course in analyzing and writing short plays. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or EBG 200 H ) or ASI 110) or equivalent.

## ENG 300. Lit Anl\&Rsrch-Poetry. 3 Hours

LITERARY ANALYSIS AND RESEARCH - POETRY - Detailed analysis of selected poems, with attention to their use of traditional forms and conventions, combined with training in standard methods of interpretation and research. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 301. Survey-Early Eng Lit. 3 Hours

SURVEY OF EARLY ENGLISH LITERATURE - Survey of English literature from the Medieval period to the end of the eighteenth century. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

ENG 302. Survey-Later Eng Lit. 3 Hours
SURVEY OF LATER ENGLISH - Survey of English literature from the beginning of the Romantic period to the present. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 305. Survey-American Lit. 3 Hours

SURVEY OF AMERICAN LITERATURE - Survey of American literature from the Colonial period to the present. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 306. Surv-ContinentI Lit. 3 Hours

SURVEY OF CONTINENTAL LITERATURE - Survey of continental European literature from Homer to the present. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 308. Intrmd Poetry Wkshop. 3 Hours

INTERMEDIATE POETRY WORKSHOP - Intensive practice in the writing of poems. Prerequisite(s): ENG 282 or permission of department chairperson.

## ENG 310. Intrmd Fiction Wkshp. 3 Hours

INTERMEDIATE FICTION WORKSHOP - Intensive practice in the writing of fiction. Prerequisite(s): ENG 284 or permission of department chairperson.

## ENG 312. Adv Writing-Drama. 3 Hours

ADVANCED WRITING OF DRAMA - Intensive practice in the writing of plays. Prerequisite(s): ENG 286 or permission of department chairperson.

## ENG 315. Creative Nonfiction. 3 Hours

CREATIVE NONFICTION - Study, analysis, and writing of a number of creative nonfiction forms, including memoir, personal essay, biography, opinion essay, and weblogs. Focus on writing process, rhetorical awareness, style, and voice in expressive writing. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 316. Elements of Style. 3 Hours

ELEMENTS OF STYLE - Study of stylistic options available to all writers. Examination of and practice in adapting writing style for various audiences and purposes, altering style to achieve desired effects, and developing a distinctive written voice. Prerequisite(s): ((ENG 200 or ENG 200 H ) or ASI 120) or equivalent.

## ENG 317. Contemporary Poetry. 3 Hours

CONTEMPORARY POETRY - Study of selected poems by recent writers. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 319. Contemporary Fiction. 3 Hours

CONTEMPORARY FICTION - Study of selected novels and short fiction by recent writers. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 320. Contemporary Drama. 3 Hours

CONTEMPORARY DRAMA - Study of selected plays to illustrate major tendencies of modern drama. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 322. Mastrpc-World Lit. 3 Hours

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(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 323. Lit-Christn Tradtn. 3 Hours

LITERATURE OF THE CHRISTIAN TRADITION - Study of literary works that form part of the Christian religious tradition. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 324. The Novel. 3 Hours

THE NOVEL - Consideration of selected novels to illustrate various fictional modes. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 325. Science Fiction. 3 Hours

SCIENCE FICTION - Survey of science fiction with detailed analysis of selected novels and short fiction. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 326. Sport \& Literature. 3 Hours

SPORT AND LITERATURE - An historical approach to analyzing the function of sport in society and literature, from Greek times to contemporary times. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 327. Studies-Populr Fictn. 3 Hours

STUDIES IN POPULAR FICTION - Analysis of selected artifacts of popular culture with reference to serious literature. May be repeated as topics change. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 328. Amer Nobel Authors. 3 Hours

AMERICAN NOBEL AUTHORS - Analysis and discussion of the works of several American Nobel Prize winners in the field of literature.
Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 329. Short Story. 3 Hours

SHORT STORY - Study of the techniques employed in the writing of the short story. Analysis of various models of the short story. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 330. Development of Drama. 3 Hours

DEVELOPMENT OF DRAMA - Study of the historical development of the drama from its beginnings to the nineteenth century. Analysis of plays from each significant period. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 331. Studies in Film. 3 Hours

STUDIES IN FILM - Analysis of selected films to show developments in film technique or criticism. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 332. Studies-Lit \& Film. 3 Hours

STUDIES IN LITERATURE AND FILM - Studies in literary texts and the film treatments of those texts. May be repeated as topics change. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 333. Images-Women in Lit. 3 Hours

IMAGES OF WOMEN IN LITERATURE - Examination of significant literary works that present and respond to images of women, with critical attention to social and historical context, including application of feminist critical approaches. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

ENG 334. Modern Men-Images. 3 Hours
MODERN MEN -- IMAGES - Critical examination of significant literary works that portray males in traditional and non-traditional roles. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 335. African Amer Lit. 3 Hours

AFRICAN AMERICAN LITERATURE - Study of African American writers and their oral and literary traditions. Emphasis on issues such as race, gender, and religion. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 336. Gender in Fiction. 3 Hours

GENDER IN FICTION - Study of major works of American and British male and female authors from different periods, analyzing the authors, their principal characters, themes, and narrative technique as they reflect different aspects of the issue of gender in literature. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 337. Studies-Folklore. 3 Hours

STUDIES IN FOLKLORE - Selected studies in American and/or world folklore. May be repeated as topics change. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 338. Images of Business. 3 Hours

IMAGES OF BUSINESS - Examination of the modern world of work, the image of the business 'professional', and the influence of organization on global society and values as these themes are revealed primarily in modern literature. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 339. American Indian Lit. 3 Hours

AMERICAN INDIAN LITERATURE - Study of American Indian writers and their oral and literary traditions. Emphasis on such issues as race, gender, and religion. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 340. Prison in Lit. 3 Hours

THE PRISON IN LITERATURE - Survey of prison literature from the rise of the modern prison in the late eighteenth century through the contemporary period. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 341. Asian-American Lit. 3 Hours

ASIAN-AMERICAN LITERATURE - Study of Asian American writers and their literary traditions. Emphasis on issues of race, gender, and class. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 342. Lit and Environment. 3 Hours

LITERATURE AND ENVIRONMENT - Examination of nature and environment in literature, focusing on literary representations of nature; nature writing; fiction and ecocritcism; the environment and the literary imagination. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 343. Lit of the Fifties. 3 Hours

LITERATURE OF THE FIFTIES - Study of three identifiable cultures of the 1950s in America that were concerned with dillusionment, conformity, alienation, and artistic standards in literature: African-American, Beat, and Jewish writers. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 344. Lit of the Sixties. 3 Hours

LITERATURE OF THE SIXTIES - Examination of the Sixties from the perspectives of cultural and literary studies. To this end, it focuses on major works of fiction, essays, New Journalism, and film. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 345. ColonI\&PostcolnI Lit. 3 Hours

COLONIAL AND POSTCOLONIAL LITERATURE - Examination of significant literary works that reveal the diversity of human cultures shaped by colonial and postcolonial contexts. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 346. Lit \& Human Rights. 3 Hours

LITERATURE AND HUMAN RIGHTS - Study of works of literature that address human rights concerns, supplemented with study of foundational philosophical, theological, and political texts that address the meaning and origin of human rights. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 347. Young Adult Lit. 3 Hours

YOUNG ADULT LITERATURE - Critical study of literature written for young adults, including an analysis of the historical trends, debates, and issues in the field. Prerequisite(s): ENG 100 or 100 B or 200 H or ASI 110.

## ENG 348. Modern Irish Lit. 3 Hours

MODERN IRISH LITERATURE - Consideration principally of the Irish literary revival of the late nineteenth and early twentieth centuries with appropriate background material. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 350. Eurpn Lit-Antiquity. 3 Hours

EUROPEAN LITERATURE OF ANTIQUITY - Study of significant works from the Old Testament and Greek, Roman, English, Irish, and/or Scandinavian writers. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 351. Eurpn Lit-Midl Ages. 3 Hours

EUROPEAN LITERATURE OF MIDDLE AGES - Study of selected literary masterpieces of western civilization in the Middle Ages. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 353. Lit-Renaissance. 3 Hours

LITERATURE OF THE RENAISSANCE - Study of selected literary masterpieces from England and the Continent that illustrate the culture and ideas of the Renaissance. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 354. Lit-Enlightenment. 3 Hours

LITERATURE OF THE ENLIGHTENMENT - Study of selected English and European literature from the Age of Reason. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 355. Lit-Romantic Age. 3 Hours

LITERATURE OF THE ROMANTIC AGE - Study of the Romantic Revolution as illustrated in representative writings of English and European authors. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 356. Eurpn Lit-19th Cent. 3 Hours

EUROPEAN LITERATURE OF THE 19TH CENTURY - Study of representative masterpieces from the literature of England and the Continent during the nineteenth century. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 357. Eurpn Lit-Early 20th. 3 Hours

EUROPEAN LITERATURE OF THE EARLY 20TH CENTURY - Study of significant English and European literature that illustrates the ideas and culture of the early modern period. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 358. Contemp Lit-Europe. 3 Hours

CONTEMPORARY LITERATURE OF EUROPE - Study of selected western European literature that illustrates the ideas and culture of the present age. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 360. Latina/Latino Lit. 3 Hours

US LATINA/LATINO LITERATURE - Study of U.S. Latina/o authors writing in English and their literary traditions. Emphasis on issues of race, gender, and class. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 362. Shakespeare. 3 Hours

SHAKESPEARE - Study of selected plays and poems of Shakespeare. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 362L. Shakespeare Perf Lab. 1 Hour

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. Corequisite(s): ENG 362 or equivalent Shakespeare course.

## ENG 363. Shakespear's Worlds. 3 Hours

SHAKESPEARE'S WORLDS - Concentrated analysis of the various worlds created in Shakespeare's plays and their interconnection with and depiction of the major elements of the historical world of early modern England. In the process of this integrated analysis, the Historical Study and Arts Study domains will be respected and taught as separate disciplines. This course is cross-listed with HST 308.

## ENG 370. Rprt\&Proposal Wrtng. 3 Hours

REPORT AND PROPOSAL WRITING - Analysis and practice in effective report and proposal writing. Emphasis on employing appropriate rhetorical and technological tools to analyze, produce, and edit proposals and reports for both business and non-profit audiences. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing.

## ENG 371. Technical Commnicatn. 3 Hours

TECHNICAL COMMUNICATION - Study and practice of effective written communication in technical professions. Emphasis on rhetorical and technological tools and editing skills needed to analyze and create technical documents with written and visual elements. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing.

## ENG 372. Business Commicatn. 3 Hours

BUSINESS COMMUNICATION - Study and practice in the principles and processes of effective written communication typically encountered in business and other professions. Focus on use of appropriate rhetorical and technological tools to analyze, write, and edit a range of texts including letters, memos, policies, procedures, job descriptions, resumes, performance reviews, reports, and proposals. Prerequisite(s): ((ENG 200 or ENG 200 H ) or ASI 120) or equivalent; junior or senior standing.

ENG 373. Medical Writing. 3 Hours
MEDICAL WRITING - Intensive practice in reading and writing for the healthcare professions. Designed for pre-medicine, pre-dentistry, preveterinary, and pre-physical therapy students. Practice in research and workplace writing, uses of narrative in medicine, the personal essay, and MCAT essay. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing.

## ENG 375. Rhetoric of the Web. 3 Hours

RHETORIC OF THE WORLD WIDE WEB - Analysis and production of textual and visual elements common to the World Wide Web. Emphasis on rhetoric of electronic communication, usability, audience analysis, and integrating text and graphics. Basic web development techniques will be covered, but previous experience is helpful. Knowledge of HTML, XML, and style sheets is helpful but not required. Prerequisite(s): ((ENG 200 or ENG 200 H ) or ASI 120) or equivalent.

## ENG 376. Topics in Writing. 1-6 Hours

TOPICS IN WRITING - Analysis of and practice in specific forms of writing. May be repeated as forms change. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent.

ENG 378. Prof \& Tech Writing. 3 Hours
PROFESSIONAL AND TECHNICAL WRITING - Professional and Technical Writing.

## ENG 379. Rhetoric of Science. 3 Hours

RHETORIC OF SCIENCE - Introduction to the role rhetoric and language play in science writing. Focus on the rhetorical analysis of public policy controversies involving science and technology and the role rhetoric plays in the public's understanding of these issues. Prerequisite(s): ((ENG 200 or ENG 200 H ) or ASI 120) or equivalent.

## ENG 380. Studies in Lit. 1-6 Hours

STUDIES IN LITERATURE - Study of special topics or themes in literature. May be repeated as topics change. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 382. Mozart's Operas. 3 Hours

MOZART'S OPERAS - An interdisciplinary survey of Mozart's operas

- German and Italian, serious and comic. Class discussions will be supplemented by extensive listening and/or viewing of recorded performances and, when possible, attendance at live performances. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.


## ENG 383. Tragic Dilemma. 3 Hours

TRAGIC DILEMMA - Examination of tragedy from ancient times to modern times, with emphasis on both the form(s) of tragedy and the tragic vision of life. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 384. Chrstnty\&Mod Poetry. 3 Hours

CHRISTIANITY AND MODERN POETRY - Study of selected poets from the modern period whose work draws from the major literary, intellectual, cultural, and theological traditions of Christianity. Prerequisite(s): ((ENG 100 or ENG 100 B or ENG 200 or ENG 200H) or ASI 110) or equivalent.

## ENG 385. Rel \& Literature. 3 Hours

RELIGION AND LITERATURE - Interdisciplinary study of literature and religion, seeking the sacred in the secular, discussing the doctrines of humans and of God in major writings, especially those of current collegiate interest. Prerequisite(s): ((ENG 100 or ENG 100B or ENG 200 or ENG 200 H ) or ASI 110) or equivalent.

## ENG 395. Jr Honors Tutorial. 3 Hours

JUNIOR HONORS TUTORIAL - Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Prerequisite(s): ((ENG 200 or ENG 200H) or ASI 120) or equivalent; junior standing; permission of instructor.

## ENG 405. Chaucer. 3 Hours

CHAUCER - Study of Chaucer's life, world, language, and literary achievement, concentrating on The Canterbury Tales (in Middle English). Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 407. Medieval English Lit. 3 Hours

MEDIEVAL ENGLISH LITERATURE - Study of the dominant types in the literature of England from the beginning to 1500. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 410. Early Renaisnce Lit. 3 Hours

EARLY RENAISSANCE LITERATURE - Survey of the literature of the sixteenth century from Thomas More to Sidney and Spenser. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 414. Later Renaisnce Lit. 3 Hours

LATER RENAISSANCE LITERATURE - Survey of the literature of the early seventeenth century from Bacon, Jonson, and Donne to Marvell, exclusive of Milton. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200 H .

## ENG 431. Milton. 3 Hours

MILTON - Study of the major and minor poems and selected prose of Milton. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 433. Stds-Neo-Classcl Lit. 3 Hours

STUDIES IN NEO-CLASSICAL LITERATURE - Study of English literature from Dryden to Johnson. May be repeated as topics change. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 438. English Romanticism. 3 Hours

ENGLISH ROMANTICISM - Study of the major poets and critics of the Romantic Age. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 444. Stds-19th Cn Eng Lit. 3 Hours

STUDIES IN 19TH CENTURY ENGLISH LITERATURE - Study of English literature in the nineteenth century. May be repeated as topics change. Prerequisite(s): 200- or 300 -level English course excluding ENG 200, ENG 200H.

## ENG 448. 20th Centr Britsh Lit. 3 Hours

20TH CENTURY BRITISH LITERATURE - Study of significant developments in modern British literature. Prerequisite(s): 200- or 300level English course excluding ENG 200, ENG 200H.

## ENG 451. American Romanticism. 3 Hours

AMERICAN ROMANTICISM - Study of significant developments in American literature of the mid-19th century. Prerequisite(s): 200- or 300level English course excluding ENG 200, ENG 200H.

## ENG 453. Amer Realism\&Natrlsm. 3 Hours

AMERICAN REALISM AND NATURALISM - Study of representative writers from the post-Civil War period in American literature.
Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 455. 20th Centruy Amer Lit. 3 Hours

20TH CENTURY AMERICAN LITERATURE - Study of significant developments in American literature of the twentieth century. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 460. Adv Poetry Workshop. 3 Hours

ADVANCED POETRY WORKSHOP - Intensive practice in writing of poetry and production of a chapbook. Prerequisite(s): ENG 308.

## ENG 462. Adv Fiction Wkshp. 3 Hours

ADVANCED FICTION WORKSHOP - Intensive practice in writing of fiction and production of a novella or short story cycle. Prerequisite(s): ENG 310.

## ENG 468. Intro to Linguistics. 3 Hours

INTRODUCTION TO LINGUISTICS - Introduction to the basic concepts and procedures of general linguistics, including language description, history, variation, theory, and acquisition. Prerequisite(s): ((ENG 102 or ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing or permission of department chairperson.

## ENG 470. History of English. 3 Hours

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(s): ((ENG 102 or ENG 200 or ENG 200 H ) or ASI 120) or equivalent; junior or senior standing or permission of department chairperson.

## ENG 472. Structure of English. 3 Hours

THE STRUCTURE OF ENGLISH - Study of the grammatical structure of modern English from traditional and modern linguistic points of view. Prerequisite(s): ((ENG 102 or ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing or permission of department chairperson.

## ENG 474. Argumentation. 3 Hours

ARGUMENTATION - Intensive study of argumentative writing. Theories and principles of argument and persuasion. Emphasis on formal arguments. Prerequisite(s): ((ENG 102 or ENG 200 or ENG 200H) or ASI 120) or equivalent; junior or senior standing or permission of department chairperson.

## ENG 476. Composition Theory. 3 Hours

COMPOSITION THEORY - Study of the principal current theories of composition, with application to the teaching and evaluating of writing. Prerequisite(s): ENG 316 or permission of instructor.

## ENG 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## ENG 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved ENG 477; approval of University Honors Program.

## ENG 480. Independent Study. 1-6 Hours

INDEPENDENT STUDY - Individual investigations of special topics under faculty direction. May be repeated under special circumstances. Prerequisite(s): At least fifteen semester hours of English; permission of department chairperson.

## ENG 481. Top-English Studies. 1-6 Hours

TOPICS IN ENGLISH STUDIES - Systematic study of a specialized topic in English Studies. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200 H .

## ENG 482. Modern Poetry. 3 Hours

MODERN POETRY - Concentrated, advanced study in the development of modern poetry, both English and American. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 485. Internship-Writing. 1-6 Hours

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. Option 2 grading only. Prerequisite(s): ENG 370, ENG 371, ENG 372; junior or senior standing; 2.5 cumulative GPA and at least 3.0 GPA in English courses; permission of Internship Coordinator.

## ENG 488. Literary Theory. 3 Hours

LITERARY THEORY - Comparative critical reading of classical and modern theoretical texts and analysis of critical methodology. Prerequisite(s): 200- or 300-level English course excluding ENG 200, ENG 200H.

## ENG 489. Rhetorical Criticism. 3 Hours

RHETORICAL CRITICISM - Study and practice of classical and contemporary rhetorical theories and techniques. Focus on writing rhetorical analyses of non-literary texts, including political discourse, advertising, scholarly essays, and visual images. Prerequisite(s): (ENG 272 or ENG 316) or permission of instructor; junior or senior standing.

## ENG 490. Seminar. 3 Hours

SEMINAR - Concentrated study of a topic designed to integrate selected aspects of literary history, critical approaches, and research skills developed by English majors in previous required courses. May be repeated as topics change. Prerequisite(s): ENG 300, ENG 301, ENG 302, ENG 305, (ENG 476 or ENG 488 or ENG 489).

## ENG 495. Sr Honors Tutorial. 3 Hours

SENIOR HONORS TUTORIAL - Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Prerequisite(s): Permission of department chairperson.

## Family Development

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.

Students minoring in family development must complete sixteen semester hours, including ASI 448, SOC 331 and twelve semester hours from approved courses. The total semester hours for the minor must come from three different academic disciplines and may double count to majors and other minors.

Students desiring to minor in family development should notify their advisors, their deans, and the coordinator of family development.

## Family Development Coordinator

Brenda Donnelly (Fitz Center for Leadership in Community)

## Minor in Family Development (FDV)

## Family Development

| ASI 448 | Sem-Family Development | 1 |
| :--- | :--- | :---: |
| SOC 331 | Marriage \& Family | 3 |
| Select four courses from three different disciplines: | 12 |  |
| ANT 320 |  | Anthro of Childhoods |
| CMM 499 | Sp Top-Communication |  |
| CMS 415 | Women \& Communication |  |
| HST 351 | Women Gender Am |  |
| HST 353 | Hst-Wom in Eurp Soc |  |
| HST 354 | Hst-Women Mid East |  |
| PSY 251 | Hum Growth \& Develop |  |
| PSY 351 | Child Psychology |  |
| PSY 353 | PSY Adult Dev/Aging |  |
| PSY 355 | Devlp Psychpath |  |
| PSY 443 | Psychology of Women |  |
| PSY 457 | Tv/Effects on Chldrn |  |
| PSY 462 | Human Sexuality |  |
| REL 362 | Chr Famly Values\&TV |  |
| SOC 322 | Sex Roles \& Society |  |
| SOC 323 | Juvenile Justice |  |
| SOC 330 | Perspctves-Agng |  |
| SOC 333 | Soc of Sexualities |  |
| SOC 355 | Famlies\&The Economy |  |


| SWK 325 | Child Abuse |  |
| :--- | :--- | :--- |
| SWK 327 | Parentng:Soc Welfare |  |
| SWK 330 | Perspectves on Agng |  |
| SWK 331 | Death,Dying\&Suicide | 16 |

## Film Studies

The interdisciplinary minor in film studies (FLM) provides students an opportunity to explore one of the most popular and influential media of the twentieth century. Students study the history, theory, and aesthetics of film and consider film from literary, philosophic, religious, economic, and creative perspectives. The minor complements many of the existing majors in the arts and sciences and enhances the academic preparation of students who are considering graduate school and/or careers in film criticism, screenwriting, or film production.
Students minoring in film studies must complete thirteen semester hours, including ASI 350 and twelve semester hours from approved courses. The total semester hours for the minor must come from at least three different academic disciplines.

Students desiring to minor in film studies should notify their respective deans and the coordinator of film studies.

## Film Studies Committee

James Farrelly (English), Coordinator
Fouke (Philosophy), Kimbrough (English), McCombe (English), Zukowski (Religious Studies)

## Minor in Film Studies (FLM)

Film Studies

| ASI 350 | Interdisp Film Study ${ }^{1}$ | 1 |
| :---: | :--- | :---: |
| Select four courses from: ${ }^{2}$ | 12 |  |
| CMM 345 | Class Amer Film $^{12}$ |  |
| ENG 331 | Studies in Film |  |
| ENG 332 | Studies-Lit \& Film |  |
| MUS 327 | Music in Film |  |
| PHL 324 | Philosophy \& Film |  |
| REL 372 | Religion \& Film | 13 |
| Total Hours |  |  |

1 Capstone course taken after all elective courses have been completed.
2 Or other courses with permission of the committee.

## General Studies

\author{

- Bachelor of General Studies
}

The Bachelor of General Studies program is designed for those students who desire to pursue a non-traditional degree program at the University outside of any departmental major. This degree program permits great latitude in utilizing the academic resources of the University for planning and acquiring an education to meet individual needs. Students may plan their programs to the best advantage of their particular educational objectives. Students build their programs on the foundation of University General Competencies and General Education requirements.

## Bachelor of General Studies (GEN)

Admission requirements for the Bachelor of General Studies are the same as those for any other degree 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 commencement of a student's last thirty semester hours of study. An application for acceptance into the degree program must be completed and approved by an Assistant Dean in the College of Arts and Sciences. Any students in good academic standing may request transfer into this program.

The General Studies student is required to plan an academic program to satisfy the requirements for graduation in consultation with an Assistant Dean. The General Studies student must complete a minimum of the last thirty semester hours of study under the supervision of an Assistant Dean who will serve as the student's advisor. The usual policy of prerequisites remains in effect in this program.

1. University General Competencies and the General Education requirements (see Chapter V),
2. Three semester hours of mathematics selected from courses offered by the Mathematics department (excluding MTH 102, , MTH 205),
3. Study of the natural sciences by completing seven semester hours in approved natural science courses (biology, chemistry, geology, physics), including one course with accompanying laboratory,
4. A minimum of fifty-four semester hours of courses at the 300-400 level with a grade point average of 2.0 or better,
5. Not more than thirty semester hours of work from any one academic discipline.
6. Credits earned in completion of the Bachelor of General Studies may not be applied at a later time to the credits for a second degree from the College of Arts and Sciences.

A Bachelor of General Studies requires at least 120 semester hours of credit.

## Geology

Majors:

- Bachelor of Science, Environmental Geology
- Bachelor of Science, Geology

Minor:

- Geology

Geology is the study of the Earth past and present. It incorporates many aspects of our complex planet including its composition, structure, environment, dynamic and hazardous processes, and the development of life, continents and oceans through time. Geology plays a critical role in interpreting the Earth's long history of physical and biological changes, and in predicting future environmental change.
The geology department offers two programs leading to Bachelor of Science degrees in geology and environmental geology. The geology (GEO) major provides basic courses in the geological sciences and a range of advanced level courses that allow students to develop courses of study that complement particular interests within the field.
The environmental geology (EVG) program is broad in scope, providing a broad foundation in the fundamentals of earth science as well as an interdisciplinary curriculum that includes geology, biology, chemistry,
and other allied science courses. The EVG curriculum stresses the interdisciplinary nature of environmental concerns.

The geology department aims to prepare students for both careers in the geological sciences and further academic studies. Hence, graduates of the department are highly competitive for entry to graduate programs. Geology majors pursue careers in a wide range of settings including:

- State and Federal Geological Agencies
- Geological Consulting Companies
- Natural Resource Exploration, Development and Management
- Museums
- Research Laboratories
- Education

Environmental geologists address critical needs of our society ranging from groundwater protection and water-supply development to the identification and assessment of natural hazards.

A minor in geology consists of twelve semester hours.

## Faculty

Daniel Goldman, Chairperson
Professor Emeritus: Ritter
Professors: Pair, Sandy
Associate Professors: Goldman, Koziol, A. McGrew
Assistant Professor: Wu
Visiting Assistant Professor: Haritashya
Lab Coordinator: Schoenenberger

## Bachelor of Science with a major in Environmental Geology (EVG)

The following program, leading to the Bachelor of Science with a major in environmental geology, is designed to present students with the basic courses in the geological sciences as well as provide specific environmental geology courses. The program also requires additional related science courses.

## Geology

| Year 1 |  | 4 |
| :--- | :--- | :--- |
| GEO 115 | Physical Geology |  |
| \& 115L | and Physical Geology Lab |  |
| GEO 116 | Geolgcl Hst-Earth <br> \& 116L | and Geolgcl Hst-Earth Lb |$\quad 4$


| Select two GEO electives from: |  | 8 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { GEO } 302 \\ & \& 302 \mathrm{~L} \end{aligned}$ | Glacial Geology and Glacial Geology Lab |  |
| GEO 303 | Field Geology |  |
| $\begin{aligned} & \text { GEO } 401 \\ & \& 401 \mathrm{~L} \end{aligned}$ | Paleontology and Paleontology Lab |  |
| $\begin{aligned} & \text { GEO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Sedimentology and Sedimentology Lab |  |
| GEO 404 | Problems in Geology |  |
| GEO 411 <br> \& 411L | Petrology and Petrology Lab |  |
| $\text { GEO } 412$ \& 412L | Intro Geochemistry and Intro Geochmstry Lab |  |
| GEO 450 | Applied GIS |  |
| GEO 477 | Honors Thesis |  |
| GEO 478 | Honors Thesis |  |
| GEO 498 | Research\&Thesis |  |
| Select six science electives from: |  | 17 |
| $\begin{aligned} & \text { BIO } 310 \\ & \& 310 \mathrm{~L} \end{aligned}$ | Ecology and Ecology Lab |  |
| $\begin{aligned} & \text { BIO } 350 \\ & \& 350 \mathrm{~L} \end{aligned}$ | Applied Microbiology and Applied Microbio Lab |  |
| $\begin{aligned} & \text { BIO } 452 \\ & \& 452 \mathrm{~L} \end{aligned}$ | Bio Rivers \& Lakes and Bio River\&Lake Lab |  |
| $\begin{aligned} & \text { BIO } 459 \\ & \& 459 \mathrm{~L} \end{aligned}$ | Envirnmntl Ecology and Envirnmtl Eco Lab |  |
| CEE 312 <br> \& 312L | Geotechnical Engr and Geotechncl Engr Lab |  |
| CEE 390 | Envr Pollutn Cntrl |  |
| CEE 434 <br> \& 434L | Water \& Waste Engr and Watr\&Waste Engr Lab |  |
| $\begin{aligned} & \text { CHM } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Quantitative Anal and Quant Analysis Lab |  |
| CHM 302 | Physical Chemistry |  |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 L \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab |  |
| CHM 341 \& 341L | Environmental Chem and Environmntl Chm Lab |  |
| CPS 132 | Progrmmng-Engr \& Sci |  |
| CPS 144 | Intro-Computr Progrm |  |
| MTH 218 | Anly Geom \& Calc III |  |
| MTH 219 | Appl Diff Equations |  |
| MTH 367 | Statistical Meth I |  |
| MTH 368 | Statistical Meth II |  |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| BIO 151 | Concepts of Bio I | 3 |
| BIO 152 | Concepts of Bio II | 3 |
| CHM 123 <br> \& 123L | General Chemistry and Gen Chemistry Lab | 4 |
| CHM 124 <br> \& 124L | General Chemistry and Gen Chemistry Lab | 4 |
| MTH 168 | Anly Geom \& Calc I ${ }^{2}$ | 4 |
| MTH 169 | Anly Geom \& Calc II ${ }^{2}$ | 4 |

PHY 206 Gen Physics I Mech ${ }^{1} 3$
PHY 207 Gen Phy II Ele \& Mag ${ }^{1} 3$
Communication Competencies ..... 3-9
Humanities ..... 9
Philosophy and Religious Studies ..... 12
Social and Behavioral Sciences ..... 6
Total Hours - general education courses/academic electives to total ..... 120 at least

1 May substitute PHY 201-PHY 202 with permission.
2 May substitute MTH 148-MTH 149 or MTH 137, MTH 138 \& MTH 149 with permission.

## Bachelor of Science with a major in Geology (GEO)

| Geology |  |  |
| :---: | :---: | :---: |
| Year 1 |  |  |
| GEO 115 <br> \& 115L | Physical Geology and Physical Geology Lab | 4 |
| $\begin{aligned} & \text { GEO } 116 \\ & \& 116 \mathrm{~L} \end{aligned}$ | Geolgcl Hst-Earth and Geolgcl Hst-Earth Lb | 4 |
| Year 2 |  |  |
| $\begin{aligned} & \text { GEO } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Mineralogy and Mineralogy Lab | 4 |
| Year 3 |  |  |
| $\begin{aligned} & \text { GEO } 301 \\ & \& 301 \mathrm{~L} \end{aligned}$ | Structural Geology and Structural Geo Lab | 4 |
| $\begin{aligned} & \text { GEO } 307 \\ & \& 307 \mathrm{~L} \end{aligned}$ | Geomorphology and Geomorphology Lab | 4 |
| Year 4 |  |  |
| GEO 303 | Field Geology | 6 |
| $\begin{aligned} & \text { GEO } 310 \\ & \& 310 \mathrm{~L} \end{aligned}$ | Stratigraphy and Stratigraphy Lab | 4 |
| $\begin{aligned} & \text { GEO } 401 \\ & \& 401 \mathrm{~L} \end{aligned}$ | Paleontology and Paleontology Lab | 4 |
| $\begin{aligned} & \text { GEO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Sedimentology and Sedimentology Lab | 4 |
| Select two GEO electives from: 8 |  |  |
| $\begin{aligned} & \text { GEO } 302 \\ & \& 302 \mathrm{~L} \end{aligned}$ | Glacial Geology and Glacial Geology Lab |  |
| GEO 308 <br> \& 308L | Probs-Envrmntl Geo and Probs in Env Geo Lab |  |
| $\begin{aligned} & \text { GEO } 309 \\ & \& 309 \mathrm{~L} \end{aligned}$ | Surf\&Groundwtr Hydr and Surf\&Groundwtr Hy Lb |  |
| GEO 404 | Problems in Geology |  |
| $\text { GEO } 411$ \& 411L | Petrology and Petrology Lab |  |
| GEO 412 <br> \& 412L | Intro Geochemistry and Intro Geochmstry Lab |  |
| GEO 450 | Applied GIS |  |
| GEO 477 | Honors Thesis |  |
| GEO 478 | Honors Thesis |  |
| GEO 479L | Environmntl Inst Lab |  |
| GEO 498 | Research\&Thesis |  |

BIO, CHM, CPS, GEO, MTH ,PHY, Engineering ${ }^{1}$

## Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :---: |
| CHM 123 | General Chemistry |  |
| \& 123L | and Gen Chemistry Lab | 4 |
| CHM 124 | General Chemistry |  |
| \& 124L | and Gen Chemistry Lab | 4 |
| MTH 168 | Anly Geom \& Calc I |  |
| MTH 169 | Anly Geom \& Calc II ${ }^{3}$ | 4 |
| PHY 206 | Gen Physics I Mech ${ }^{2}$ | 4 |
| PHY 207 | Gen Phy II Ele \& Mag ${ }^{2}$ | 3 |
| Communication Competencies | 3 |  |
| Humanities | $3-9$ |  |
| Philosophy and Religious Studies | 9 |  |
| Social and Behavioral Sciences | 12 |  |
| Total Hours - general education courses/academic electives to total | 120 |  |

Total Hours - general education courses/academic electives to total 120 at least

1 With permission.
2 May substitute PHY 201-PHY 202 with permission.
3 May substitute MTH 148-MTH 149, or MTH 137, MTH 138 \& MTH 149 with permission.

## Minor in Geology (GEO)

## Geology

| Select four GEO courses $(300 / 400 \text { level })^{1}$ | 12 |
| :--- | :--- |
| Toal Her |  |

Total Hours
1 Appropriate prerequisites must be completed.

## Courses

## GEO 103. Prin of Geography. 3 Hours

PRINCIPLES OF PHYSICAL GEOGRAPHY - Analysis of the physical factors of the earth's environment: weather, climate, land forms, oceans.

## GEO 104. Bio-Geo Field Course. 3 Hours

BIOLOGY-GEOLOGY FIELD COURSE - Fundamental earth science topics with emphasis on direct field experience. One week on campus, three weeks in the Rocky Mountains near Denver, Colorado, and one week of travel. For all non-geology and non-biology majors. Corequisite(s): BIO 104; (BIO 104L or GEO 104L).

## GEO 104L. Bio-Geo Field Lab. 1 Hour

BIOLOGY-GEOLOGY FIELD LABORATORY - Course to accompany GEO 104.

## GEO 109. General Geology. 3 Hours

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.

GEO 109L. General Geology Lab. 1 Hour
GENERAL GEOLOGY LABORATORY - Course to accompany GEO 109. Two hours each week.

GEO 115. Physical Geology. 3 Hours
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.

GEO 115L. Physical Geology Lab. 1 Hour
PHYSICAL GEOLOGY LABORATORY - Course to accompany GEO 115. Two hours each week. Prerequisite(s): (GEO 109 or GEO 115); permission of instructor.

GEO 116. Geolgcl Hst-Earth. 3 Hours
GEOLOGICAL HISTORY OF THE EARTH - Comprehensive study of earth history from its origins to the present. Prerequisite(s): (GEO 109 or GEO 115); permission of instructor.

GEO 116L. Geolgcl Hst-Earth Lb. 1 Hour
GEOLOGICAL HISTORY OF THE EARTH LABORATORY - Course to accompany GEO 116. Two hours each week.

## GEO 198. Geo Land\&Envr-MV. 3 Hours

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(s): GEO 109 or GEO 115 or permission of instructor.

## GEO 201. Mineralogy. 3 Hours

MINERALOGY - Introduction to crystallography, crystal chemistry and crystal structure. Study of the major groups of rock-forming minerals, their association and occurrence with emphasis on identification by physical properties and optical techniques. Prerequisite(s): (GEO 109 or GEO 115 ) or permission of instructor.

## GEO 201L. Mineralogy Lab. 1 Hour

MINERALOGY LABORATORY - Course to accompany GEO 201. Three hours per week.

## GEO 204. Geology for Teachers. 4 Hours

GEOLOGY FOR TEACHERS - Introduction for preservice teachers to the Earth system and the processes that operate in the atmosphere, hydrosphere, biosphere, and solid Earth. Emphasis is on understanding how interactions among these fundamental Earth systems maintain our livable planet. Students will explore the Earth system through best practices in teaching and inquiry, and through field trips. For ECE, EMS, and EMM majors only. Students completing this course may not take SCI 210. Prerequisite(s): EDT 110; SCI 190.

## GEO 208. Environmentl Geology. 3 Hours

ENVIRONMENTAL GEOLOGY - Study of the relationship of geologic factors to the problems of water supply, pollution, erosion, land use, and earth resources. Laboratory optional. Prerequisite(s): (GEO 109 or GEO 115) or permission of instructor.

GEO 208L. Envir Geology Lab. 1 Hour
ENVIRONMENTAL GEOLOGY LABORATORY - Course to accompany GEO 208. Two hours each week.

## GEO 218. Engineering Geology. 3 Hours

ENGINEERING GEOLOGY - Comprehensive study of geologic principles applicable to civil engineering practices.

## GEO 234. Energy Resources. 3 Hours

ENERGY RESOURCES - The chemical and geological aspects of formation, production, and benefits/costs (including environmental impacts) of energy derived from fossil fuels (coal and hydrocarbons), biofuels (e.g., ethanol production), radioactive materials (nuclear power), and renewable sources (e.g., geothermal, hydro, wind, and solar power). Prerequisite(s): CHM 123, CHM 124. Corequisite(s): GEO 208.

## GEO 301. Structural Geology. 3 Hours

STRUCTURAL GEOLOGY - The origin and development of structural features of the earth's crust; folding, faulting, volcanism, mountain building, and metamorphism. Prerequisite(s): GEO 115, GEO 116, GEO 201.

GEO 301L. Structural Geo Lab. 1 Hour
STRUCTURAL GEOLOGY LABRATORY - Course to accompany GEO 301. Two hours each week.

## GEO 302. Glacial Geology. 3 Hours

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. Prerequisite(s): GEO 115, GEO 116.

## GEO 302L. Glacial Geology Lab. 1 Hour

GLACIAL GEOLOGY LABORATORY - Course to accompany GEO 302. Two hours each week.

## GEO 303. Field Geology. 6 Hours

FIELD GEOLOGY - Study of field relationships in an area containing abundant igneous, metamorphic, and sedimentary rocks. Prerequisite(s): GEO 115, GEO 116.

## GEO 307. Geomorphology. 3 Hours

GEOMORPHOLOGY - Detailed study of landforms and the erosional processes that develop them. Prerequisite(s): GEO 115, GEO 116.

## GEO 307L. Geomorphology Lab. 1 Hour

GEOMORPHOLOGY LABORATORY - Course to accompany GEO 307. Two hours each week.

## GEO 308. Probs-Envrmntl Geo. 3 Hours

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(s): (GEO 109 or GEO 115) or permission of instructor.

## GEO 308L. Probs in Env Geo Lab. 1 Hour

PROBLEMS AND DECISIONS IN ENVIRONMENTAL GEOLOGY LABORATORY - Course to accompany GEO 308. Two hours each week and periodic field work.

## GEO 309. Surf\&Groundwtr Hydr. 3 Hours

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(s): (GEO 109 or GEO 218) or permission of instructor.

GEO 309L. Surf\&Groundwtr Hy Lb. 1 Hour SURFACE AND GROUNDWATER HYDROLOGY LABORATORY Laboratory exercises to accompany GEO 309. Three hours per week.

## GEO 310. Stratigraphy. 3 Hours

STRATIGRAPHY - The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisite(s): GEO 116.

## GEO 310L. Stratigraphy Lab. 1 Hour

STRATIGRAPHY LABORATORY - Course to accompany GEO 310. Two hours each week.

## GEO 401. Paleontology. 3 Hours

PALEONTOLOGY - The study of ancient life. The morphology, ecology, evolution, and stratigraphic distributions of selected invertebrates, vertebrates, and plants.

## GEO 401L. Paleontology Lab. 1 Hour

PALEONTOLOGY LABORATORY - Course to accompany GEO 401. Two hours each week.

## GEO 403. Sedimentology. 3 Hours

SEDIMENTOLOGY - Detailed study of sediments: their sources, environments of deposition, and methods of consolidation. Emphasis on the interpretation of ancient sediments. Prerequisite(s): GEO 201.

## GEO 403L. Sedimentology Lab. 1 Hour

SEDIMENTOLOGY LABORATORY - Course to accompany GEO 403. Two hours each week.

## GEO 404. Problems in Geology. 1-4 Hours

PROBLEMS IN GEOLOGY - Consideration of special problems involving advanced work in the laboratory and library; arranged to meet the needs of individual students.

## GEO 411. Petrology. 3 Hours

PETROLOGY - Study of the formation of sedimentary, igneous, and metamorphic rocks. Prerequisite(s): GEO 201.

## GEO 411L. Petrology Lab. 1 Hour

PETROLOGY LABORATORY - Course to accompany GEO 411. Two hours each week. Prerequisite(s): GEO 201.

## GEO 412. Intro Geochemistry. 3 Hours

INTRODUCTORY GEOCHEMISTRY - Study of elementary thermodynamics, aqueous geochemistry, and principles governing the distribution of trace elements, radioisotopes and stable isotopes in igneous, metamorphic and sedimentary rocks. Emphasis on applications and solution of geological problems. Prerequisite(s): GEO 201 or permission of instructor.

GEO 412L. Intro Geochmstry Lab. 1 Hour
INTRODUCTORY GEOCHEMISTRY LABORATORY - Course to accompany GEO 412. Three hours each week.

## GEO 450. Applied GIS. 4 Hours

APPLIED GEOGRAPHIC INFORMATION SYSTEMS - Concepts and implementation of project design and analysis in geographic information systems (GIS). Students will learn the practice of GIS as a tool for spatial analysis, and as it applies in professional disciplines. The course will stress database design and present skills for data input, query analysis, and data output using GIS.

## GEO 455. Enviromntl Remote Sensing. 4 Hours

ENVIRONMENTAL REMOTE SENSING - Introduction to principles and concepts of remote sensing, a sophisticated technology of earth observation that provides fundamental data for global environmental investigation. Prerequisite(s): GEO 208 or permission of instructor.

## GEO 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## GEO 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## GEO 479L. Environmntl Inst Lab. 2 Hours

ENVIRONMENTAL INSTRUMENTATION LABORATORY - The understanding and use of field and laboratory based equipment to study current environmental issues. Emphasis on team-centered approaches to investigating environmental problems. Prerequisite(s): (BIO 151, BIO 152) or (GEO 115, GEO 116) or permission of instructor.

## GEO 485. GIS App-Watr Resources. 4 Hours

GEOGRAPHIC INFORMATION SYSTEMS APPLICATIONS IN WATER RESOURCES PLANNING AND MANAGEMENT - An introduction to GIS applications in water resource management. Following an introduction to GIS basics, this course focuses on GIS techniques in surface water modeling and floodplain delineation and management.

## GEO 495. Geology Seminar. 1 Hour

GEOLOGY SEMINAR - Introduction to professional practices in the geosciences. Students will attend seminar talks by guest speakers, research career options and graduate programs in the earth sciences, develop a professional resume, and participate in other professionbuilding activities. May be repeated. Prerequisite(s): Permission of instructor.

## GEO 498. Research\&Thesis. 4 Hours

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(s): Permission of instructor.

## History

Minor:

- History

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
- Historical Administration
- Preservation
- Archival Management

History 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
- Business

Students in B.A. programs can acquire teacher licensure through the E11A program (See EDT). For details, consult the department chairperson.

A history minor consists of eighteen semester hours.

## Faculty

Juan Santamarina, Chairperson
Distinguished Service Professor: Palermo
Professors Emeriti: Alexander, Eid, Palermo, Taylor
Professors: Amin, Bednarek, Heitmann, Morman, Schweikart, Trollinger
Associate Professors: Agnew, Cadegan, Carlson, Carter, Darrow,
Fleischmann, Flockerzie, Hume, Merithew, Santamarina
Assistant Professors: Borbonus, Reid
Adjunct Professor: Gannon
Lecturers: Bartley, Jaffe, Schuerman, Sextro, Sutherland, UhIman, Washington

## Major:

- Bachelor of Arts, History


## Bachelor of Arts with a major in History (HSt)

| History |  |  |
| :--- | :--- | :---: |
| HST 103 | West and World | 3 |
| HST 251 | Amer Hst to 1865 | 3 |
| HST 252 | Amer Hst Since 1865 | 3 |
| HST 301 | Research Seminar | 3 |
| Select six HST electives $\left(300\right.$ level) $^{1}$ | 18 |  |
| Select two HST seminars $\left(400\right.$ level) $^{2}$ | 6 |  |

Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp
Communication Competencies 3-9
Creative and Performing Arts 3
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3

Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 1

Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 These electives should be distributed so that the student will have taken history (HST) electives in three geographical areas: United States, Europe, and at least one of the following: Africa, Asia, Latin America, Middle East.
2 Three semester hours of the seminar requirement may be achieved through the fulfillment of an experiential component earned through completion of three semester hours of HST 495 Internship.

## Minor in History (hst)

| History |  |  |
| :--- | :--- | :---: |
| HST 103 | West and World | 3 |
| HST 251 | Amer Hst to 1865 | 3 |
| or HST 252 | Amer Hst Since 1865 |  |
| Select two courses in American history $(300 / 400$ level $)$ | 6 |  |
| Select two courses in Non-American history $(300 / 400$ level $)$ | 6 |  |
| Total Hours | 18 |  |

## Courses

## HST 103. West and World. 3 Hours

THE WEST AND THE WORLD - Survey of key themes in world history including the social, economic, cultural, political, and environmental forces that shaped the human past throughout the globe.

## HST 198. HST Scholars Sem. 3 Hours

HISTORY SCHOLARS' 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 Berry Scholars Program.

HST 220. Ancient History. 3 Hours
SURVEY OF ANCIENT HISTORY - Survey of ancient Mediterranean, Middle Eastern, and Chinese history with emphasis on the interaction among these regions and the overall impact of antiquity. Prerequisite(s): HST 103 or equivalent.

HST 251. Amer Hst to 1865. 3 Hours
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. Prerequisite(s): HST 103 or equivalent.

## HST 252. Amer Hst Since 1865. 3 Hours

AMERICAN HISTORY SINCE 1865 - Survey of the development of the nation after the Civil War, stressing social, economic, and political problems. Prerequisite(s): HST 103 or equivalent.

HST 260. Asian History. 3 Hours
SURVEY OF ASIAN HISTORY - Historical survey of the cultures and states of Asia, from the origins of agricultural civilization to the modern period. Prerequisite(s): HST 103 or equivalent.

## HST 280. Middle East History. 3 Hours

SURVEY OF MIDDLE EASTERN HISTORY - Historical survey of the cultures and societies of the Middle East, from the rise of Islam to the modern period. Prerequisite(s): HST 103 or equivalent.

## HST 300. Career Dev-History. 1 Hour

CAREER DEVELOPMENT IN HISTORY - Exploration of career opportunities open to History majors, with special emphasis on strategic planning for a career, creating a job portfolio, and mastering the practical mechanics of job searching. Prerequisite(s): (HST 103 or equivalent); HST 301 (may be taken as a corequisite).

## HST 301. Research Seminar. 3 Hours

RESEARCH METHODS SEMINAR - Historical methods, philosophy, and introductory historiography, the last based on the professor's field of specialization. Required for all history majors. Prerequisite(s): HST 103 or equivalent.

## HST 302. Ancient Greece. 3 Hours

HISTORY OF ANCIENT GREECE - Survey of Greek history and culture from the Bronze Age to Alexander the Great. Prerequisite(s): HST 103 or equivalent.

## HST 303. Hst Roman Rep\&Emp. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

HST 304. Ancint Hst\&Mod Idlgy. 3 Hours
ANCIENT HISTORY AND MODERN IDEOLOGY - Study of the ways in which the Classical past affects the modern world with a particular emphasis on the way in which modern thinkers and societies have used classical antiquity to envision, create, sustain and evaluate national identities and other ideologies. Prerequisite(s): HST 103 or equivalent.

## HST 305. Medieval Europe. 3 Hours

MEDIEVAL EUROPE - European history from the fourth to the fifteenth century, including birth of Middle Ages; development of Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; Crusades; rise of universities; birth of national cultures. Prerequisite(s): HST 103 or equivalent.

## HST 307. Renaissance\&Reformtn. 3 Hours

RENAISSANCE AND REFORMATION - The development of European history from the fourteenth to the middle of the seventeenth century. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation. Prerequisite(s): HST 103 or equivalent.

## HST 308. Shakespeare's Worlds. 3 Hours

SHAKESPEARE'S WORLDS A - concentrated analysis of the various worlds created in Shakespeare's plays and their interconnection with and depiction of the major elements of the historical world of early modern England. In the process of this integrated analysis, the Historical Study and Arts Study domains will be respected and taught as separate disciplines. This course is cross-listed with ENG 363. Prerequisite(s): HST 103 or equivalent.

## HST 311. Old Regime Europe. 3 Hours

OLD REGIME EUROPE - From the later Reformation to the era of the French Revolution: intellectual and cultural development; political, economic, and social trends of the Old Regime. Prerequisite(s): HST 103 or equivalent.

## HST 312. Age-Democratc Revl. 3 Hours

AGE OF DEMOCRATIC REVOLUTIONS - Historical analysis of the ideological, political, social and economic changes of the late eighteenth and early nineteenth centuries, emphasizing developments in France and Europe. Prerequisite(s): HST 103 or equivalent.

## HST 313. Europe 1815-1914. 3 Hours

THE DUAL REVOLUTION AND ITS CONSEQUENCES- EUROPE 1815-1914 - Historical analysis of nineteenth century Europe emphasizing the ideological, political, economic and social consequences of the Industrial and French revolutions, commonly known as the Dual Revolution. Prerequisite(s): HST 103 or equivalent.

## HST 314. Europe 1890-1945. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 315. Europe 1945-Present. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 316. Beethoven \& His Era. 3 Hours

BEETHOVEN AND HIS ERA - Survey of the music of Ludwig van Beethoven, including orchestral works and chamber music, opera, keyboard and sacred music; and a survey of the historical context in which Beethoven lived and worked - Europe and the Habsburg Empire of the late eighteenth and early nineteenth centuries, and especially Vienna, the Habsburg capital. Beethoven is the culmination of the High Classic style and also the first of a new generation of Romantic composers. Prerequisite(s): HST 103 or equivalent.

## HST 320. European Mil Hst. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 321. Modern France. 3 Hours

MODERN FRANCE - French history from the Bourbon Restoration to the present. Emphasis on political, socio-economic, and cultural factors. Prerequisite(s): HST 103 or equivalent.

## HST 322. History of England. 3 Hours

HISTORY OF ENGLAND - Major forces and trends in the history of England from the early medieval period to the present, including their influence on social history and literature. Prerequisite(s): HST 103 or equivalent.

## HST 323. Modern Germany. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 324. Comp Nationalism. 3 Hours

COMPARATIVE NATIONALISM - Comparative study of the origins and consequences of national movements throughout the world. Attention given to the historiography of nationalism and the fate of the nation-state idea in a number of temporal, geographic, political and cultural settings. Prerequisite(s): HST 103 or equivalent.

## HST 325. Hst-Russia 1860. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 326. Hst-Sov Un 1860-Pr. 3 Hours

RUSSIA, THE SOVIET UNION AND BEYOND, 1860-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. Prerequisite(s): HST 103 or equivalent.

## HST 327. Natnl Cult-Sov Union. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 330. Hst E Asia to 1800. 3 Hours

HISTORY OF EAST ASIA TO 1800 - Survey of East Asian history from the formation of ancient states to the establishment of the dynastic hegemonies of the seventeenth and eighteenth centuries. Analysis of social, political, and cultural change in East Asia through the intensive reading of Chinese, Japanese, and Korean primary sources in translation. Prerequisite(s): HST 103 or equivalent.

## HST 331. History of India. 3 Hours

HISTORY OF INDIA - Survey of the development of civilization on the Indian subcontinent from the first extant records (c. 2500 BCE) to postIndependence modern India in connection with the B.A. Program in Philosophy. Prerequisite(s): HST 103 or equivalent.

## HST 332. Modern China\&Japan. 3 Hours

MODERN GERMANY - Study of the economic, political, social, and cultural developments of modern China and Japan from the eighteenth century to the present. Prerequisite(s): HST 103 or equivalent.

## HST 333. Hst of Mode Mdle East. 3 Hours

MODERN MIDDLE EAST - 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. Prerequisite(s): HST 103 or equivalent.

## HST 334. Hst Pal-lsrl Cflct. 3 Hours

HISTORY OF THE PALESTINIAN-ISREALI CONFLICT - Study of the history of the Palestinian-Israeli conflict from its beginnings in the late nineteenth century up to the present, with emphasis on a variety of historical interpretations of the actions and perspectives of the different parties involved. Prerequisite(s): HST 103 or equivalent.

## HST 335. Hst of South Asia. 3 Hours

HISTORY OF SOUTH ASIA - Survey of the major political, religious, cultural and economic developments on the Indian subcontinent over the past 500 years. Prerequisite(s): HST 103 or equivalent.

## HST 336. Hst-Africa 19th Cn. 3 Hours

HISTORY OF AFRICA TO THE NINETEENTH 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. Prerequisite(s): HST 103 or equivalent.

## HST 337. Hst Afr-19th Cn-Pr. 3 Hours

HISTORY OF AFRICA- 19TH CENTURY TO THE PRESENT -
Emphasis: colonialism and its impact, the growth of nationalism and the problems of contemporary Africa. Prerequisite(s): HST 103 or equivalent.

## HST 338. Stae\&Sec S Asia. 3 Hours

STATE AND SECESSION IN SOUTH ASIA - Survey of the failure of the nation-state and the rise of secessionist movements in South Asia since 1947. Prerequisite(s): HST 103 or equivalent.

## HST 340. History of Science. 3 Hours

HISTORY OF SCIENCE - Survey of the development of science from its origins in the ancient world to the present. Prerequisite(s): HST 103 or equivalent.

HST 341. Hstrcl Pers-Sci,Tech. 3 Hours
HISTORICAL PERSPECTIVES ON SCIENCE, TECHNOLOGY, AND SOCIETY - Historical study with an institutional focus of how science and science-based technology have interacted with American society from the Colonial era to the present. Central to this course is the genesis of mass production, its coupling with mass distribution, and the rise of the industrial research laboratory. Primary topics include the Industrial Revolution, the revolution in transport, the introduction of new technologies in the electrical, aviation, automotive, nuclear, petrochemical, and pharmaceutical industries, and the relationship between these science-based technologies and society. Prerequisite(s): HST 103 or equivalent.

## HST 342. Environ Hst Americas. 3 Hours

ENVIRONMENTAL HISTORY OF THE AMERICAS - Comparison and contrast of the histories of conservationism and environmentalism in the United States, Canada and Latin America. Prerequisite(s): HST 103 or equivalent.

## HST 343. Hst-Civil Engr. 3 Hours

HISTORY OF CIVIL ENGINEERING - Historical study of the development of civil engineering from the origins in the ancient world to the present. Prerequisite(s): HST 103 or equivalent.

## HST 344. Hst-Sci,Tch\&Mod Crp. 3 Hours

HISTORY OF SCIENCE, TECHNOLOGY, AND THE MODERN CORPORATION - Historical study of the emergence of twentieth-century science-based industry. Prerequisite(s): HST 103 or equivalent.

## HST 346. Hist of Aviation. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 347. Sex,Race \& Sicence. 3 Hours

SEX, RACE, AND SCIENCE - Examines the development of scientific research on sex, race, and human nature focusing especially on the biological and the human sciences. Topics will include race science, the study of sex and sexuality, evolutionary accounts of human development, and relations between science and society from 1700. Prerequisite(s): HST 103 or equivalent.

## HST 348. Lfe and Technology. 3 Hours

LIFE AND TECHNOLOGY - Study of how conceptions of life and technology have been tied together in key historical periods: from the early modern era, the industrial age, and the information age. Topics include life and mechanical philosophy; energy, work and life; cybernetics; reproductive technologies and genetic engineering; bioinformatics; and automata and robots. Prerequisite(s): HST 103 or equivalent.

## HST 349. Tech\&Culture-War. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 350. Gay Lesbian US HST. 3 Hours

GAY AND LESBIAN U.S. HISTORY - Upper level survey course which traces the history and trajectory of Gay and Lesbian communities in the U.S. Prerequisite(s): HST 103.

## HST 351. Women Gender Am. 3 Hours

AMERICAN WOMEN'S AND GENDER HISTORY - Historical study of the changing roles of women in American society, including examination of men's and women's gender roles and the ways in which social, cultural, political, economic, legal, and polictical factors shape and change gender roles. Prerequisite(s): HST 103 or equivalent.

## HST 352. Hst of Amer Family. 3 Hours

HISTORY OF THE AMERICAN FAMILY - Survey of the historical development of American family life from the colonial period to the present. Prerequisite(s): HST 103 or equivalent.

## HST 353. Hst-Wom in Eurp Soc. 3 Hours

HISTORY OF WOMEN IN EUROPEAN SOCIETIES - Study of the changing roles of women in European societies from the roots of industrialization to the present. Prerequisite(s): HST 103 or equivalent.

## HST 354. Hst-Women Mid East. 3 Hours

HISTORY OF WOMEN AND GENDER IN THE MIDDLE EAST - Study of the history of the evolving roles and status of women in Middle Eastern societies, from the early modern period to present. Prerequisite(s): HST 103 or equivalent.

## HST 355. American Urban Hist. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 356. Women in Third World. 3 Hours

COMPARATIVE HISTORY OF WOMEN IN THE THIRD WORLD - Study of the comparative histories of women in Third World societies from a global perspective, using specific case studies of women in different societies around the world. Prerequisite(s): HST 103 or equivalent.

## HST 357. Latin Amer-20th Cen. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 358. Soc\&Cult Hst-Lat Am. 3 Hours

SOCIAL AND CULTURAL HISTORY OF LATIN AMERICA - Survey of social and cultural history of Latin America and the Caribbean from preColumbian times to the present. Emphasis on the interaction between the European colonizer and the Amerindian and African peoples of the hemisphere. Prerequisite(s): HST 103 or equivalent.

## HST 359. HST-Amer City Plan. 3 Hours

HISTORY OF AMERICAN CITY PLANNING - Historical analysis of efforts by Americans to shape the urban environment, focusing on the emergence of the discipline and profession of city planning. Includes examination of U.S. planning theories developed within a larger Atlantic community. Prerequisite(s): HST 103 or equivalent.

## HST 360. US Legl/Const Hst I. 3 Hours

U.S. LEGAL AND CONSTITUTIONAL HISTORY I - An analysis of the major developments in American legal and constitutional history from colonial beginnings through the Civil War. Emphasis on the relationship between the Constitution, the law, and lawyers, on the one hand, and America's economic, social and political developments, on the other. Prerequisite(s): HST 103 or equivalent.

## HST 361. US Legl/Const Hst II. 3 Hours

U.S. LEGAL AND CONSTITUTIONAL HISTORY II - An analysis of the major developments in American legal and constitutional history from the Reconstruction era to the present. Emphasis on the relationship between the Constitution, the law, and lawyers, on the one hand, and America's economic, social, and political developments, on the other. Prerequisite(s): HST 103 or equivalent.

## HST 365. Amer Films as Hst. 3 Hours

AMERICAN FILMS AS HISTORY - Study of the development of American values, myths, institutions, and perspectives through the use of films as a primary source. Prerequisite(s): HST 103 or equivalent.

## HST 369. Civil War \& Recnstr. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 370. Eco \& Bus Hst-US. 3 Hours

ECONOMIC AND BUSINESS HISTORY OF THE UNITED STATES Survey and analysis of American economic history, 1600 to present, primarily through a study of American business institutions and leaders. Includes analysis of major economic theories of history as well as case studies of entrepreneurs. Prerequisite(s): HST 103 or equivalent.

## HST 371. US Working Class. 3 Hours

UNITED STATES WORKING CLASS - History of American workers - male and female, paid and unpaid, and free and slave - from the beginning of industrialization through the twentieth century. Prerequisite(s): HST 103 or equivalent.

## HST 372. Hst-Rel in US. 3 Hours

HISTORY OF RELIGION IN THE UNITED STATES - Survey of religion in the United States from the colonial era to the present. Particular attention to the interaction of religion with other aspects of American society and culture. Prerequisite(s): HST 103 or equivalent.

## HST 373. American Mil Hst. 3 Hours

AMERICAN MILITARY HISTORY - Survey of American military affairs, including military, naval, and air campaigns, from early settlement to the present. Prerequisite(s): HST 103 or equivalent.

## HST 374. Ireland \& America. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 375. US Foreign Relations. 3 Hours

HISTORY OF U.S. FOREIGN RELATIONS - Foundations of foreign relations since 1750; the expansion of foreign relations during the continental expansion of the nineteenth century and the beginning of the extra-continental empire in 1898; special emphasis on the emergence of multifaceted and interconnected global foreign relations after 1898. Prerequisite(s): HST 103 or equivalent.

## HST 376. Soc \& Cult Hst of US. 3 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 377. Contemprary Amer Hst. 3 Hours

CONTEMPORARY AMERICAN HISTORY - The immediate background of contemporary political, social, and economic problems, beginning with the impact of World War II on the United States. Prerequisite(s): HST 103 or equivalent.

## HST 378. Hst Globl Immgnts-US. 3 Hours

HISTORY OF GLOBAL IMMIGRANTS TO THE UNITED STATES -
Survey of the impact immigrants have had on the social, political, cultural, and economic life in the United States from the colonial period to the present. Prerequisite(s): HST 103 or equivalent.

## HST 380. Native Amer History. 3 Hours

NATIVE AMERICAN HISTORY - Historical and descriptive survey of the native peoples of North America. Prerequisite(s): HST 103 or equivalent.

## HST 382. History of Mexico. 3 Hours

HISTORY OF MEXICO - Survey of Mexican history from pre-Columbian civilization to the present. Prerequisite(s): HST 103 or equivalent.

## HST 383. Hst of Caribbean. 3 Hours

HISTORY OF THE CARIBBEAN - 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. Prerequisite(s): HST 103 or equivalent.

## HST 384. Econ Hst of Lat Am. 3 Hours

ECONOMIC HISTORY OF LATIN AMERICA - Examination of the integration of Latin America into the world trading system and analysis of the twentieth century's successes and failures of export-led growth and industrialization. Prerequisite(s): HST 103 or equivalent.

## HST 385. Atlantic World. 3 Hours

THE ATLANTIC WORLD, 1492-1800 - Comparative look at the people and cultures of Europe, Africa and the Americas who collaborated in the colonization of the Americas. Topics to be covered will include: slavery, missionary work, virgin soil epidemics, frontier wars, gender and the invention of racial categories. Prerequisite(s): HST 103 or equivalent.

## HST 386. China in Revolution. 3 Hours

CHINA IN REVOLUTION - Study of the history of China's turbulent twentieth century, with a focus on the social, political and cultural impacts of the 1911 Revolution, the Communist Revolution in 1949, and the Cultural Revolution of the 1960s. Prerequisite(s): HST 103 or equivalent.

## HST 391. Amr Arch Hst\&Prsrvtn. 3 Hours

AMERICAN ARCHITECTURAL HISTORY AND PRESERVATION -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. Prerequisite(s): HST 103 or equivalent.

## HST 398. Hs Blks-US 1526-1900. 3 Hours

HISTORY OF BLACKS IN THE UNITES STATES, 1526-1900 - Study of the saga of black people in the U.S. from 1526 until 1900. Prerequisite(s): HST 103 or equivalent.

## HST 399. Hst Blks-US s/1900. 3 Hours

HISTORY OF BLACKS IN THE U.S. SINCE 1900 - Study of the saga of black people in the U.S. from 1900 to the present. Prerequisite(s): HST 103 or equivalent.

## HST 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## HST 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## HST 485. Sem in Amer History. 3 Hours

SEMINAR IN AMERICAN HISTORY - Reading seminar concentrating on one historical topic in American history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 486. Sem in European Hst. 3 Hours

SEMINAR IN EUROPEAN HISTORY - Reading seminar concentrating on one historical topic in European history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 487. Sem In Latin Am Hst. 3 Hours

SEMINAR IN LATIN AMERICAN HISTORY A - reading seminar concentrating on one historical topic in Latin American history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 488. Sem in African Hst. 3 Hours

SEMINAR IN AFRICAN HISTORY - Reading seminar concentrating on one historical topic in African history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 490. Sem in Hstrgrphy. 3 Hours

SEMINAR IN HISTOGRAPHY - Reading seminar concentrating on the various techniques and philosophies of history by which historians have done historical research. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 491. Sem in Ancient Hst. 3 Hours

SEMINAR IN ANCIENT HISTORY - Reading seminar concentrating on one historical topic in ancient history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 301.

## HST 492. Seminar in Asian Hst. 3 Hours

SEMINAR IN ASIAN HISTORY - Reading seminar concentrating on one historical topic in Asian history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 301.

## HST 493. Sem In Mid East Hst. 3 Hours

SEMINAR IN MIDDLE EASTERN HISTORY - Reading seminar concentrating on one historical topic in Middle Eastern history for detailed analysis. May be repeated as topics change. Prerequisite(s): HST 103 or equivalent; HST 301 or permission of department chairperson.

## HST 495. Internship. 3 Hours

INTERNSHIP - Practical and professional experience through work with approved organizations such as historical societies, architectural preservation boards, and business firms. Prerequisite(s): (HST 103 or equivalent); permission of supervising instructor.

## HST 496. Independent Study. 1-6 Hours

INDEPENDENT STUDY - The study of a special topic to be mutually selected by the student and a history professor. Prerequisite(s): (HST 103 or equivalent); permission of department chairperson.

## HST 497. Honors Tuturial. 1-6 Hours

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. Prerequisite(s): HST 103 or equivalent.

## HST 499. Topics in History. 1-6 Hours

TOPICS IN HISTORY - Specific subtitles and descriptions to be announced in the composite and posted in the History department office. Prerequisite(s): HST 103 or equivalent.

## International Studies

Bachelor of Arts, International Studies
Concentrations:

- Africa in World Affairs
- Certificate in International Business / Economics Finance Concentration
- Certificate in International Business / Marketing Human Resources Concentration
- Cooperation and Change in the New Europe
- Global Economic Development
- Global Environmental Sustainability
- International Journalism
- Marianist Social Transformation
- Migration Concentration
- Peace and Global Security
- Women's and Gender Issues in a Global Context

Minor:

- International Studies

International studies is a multidisciplinary major designed to meet the needs of students seeking the broadly based international perspective required for successful careers in education, government, international business, law, national and homeland security, humanitarian relief, and NGOs, among others. The curriculum includes a core of required courses, a concentration, a foreign language requirement, an international and/or cross-cultural experiential component, and a senior capstone seminar. The experiential component may be satisfied through study abroad, internship, language immersion, service, or work experience. The Center for International Programs and the Center for Social Concern can assist students in identifying many of these opportunities.
A minor in international studies consists of twenty-one semester hours.
International Studies Committee
Marybeth Carlson, Director
Bilocerkowycz (Political Science), Carlson (History), Fleischmann (History), Forbis (Sociology), Krugh (Languages).

## Bachelor of Arts with a major in International Studies-Africa in World Affairs Concentration (INS)

| International Studies ${ }^{1}$ |  |  |
| :---: | :---: | :---: |
| ANT 150 | Cultural Anthropolgy | 3 |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: |  | 3 |
| ASI 110 | Dev West Global Ctxt |  |
| HST 103 | West and World |  |
| HST 198 | HST Scholars Sem |  |
| Select one course from: |  | 3 |
| PHL 358 | Marxist Philosophy |  |
| PHL 370 | Political Philosophy |  |
| Select one course from: |  | 3 |
| POL 101 | Global Politics |  |
| POL 214 | Intro-Intrntl Poltcs |  |
| Select one course from: |  | 3 |
| HST 375 | US Foreign Relations |  |
| POL 408 | Amer Foreign Policy |  |
| Select one course from: ${ }^{5}$ |  | 3 |

FRN 341 Frn Culture \& Civ

| FRN 361 | Survey-French Lit I |  |
| :---: | :---: | :---: |
| FRN 362 | Survey-French Lit II |  |
| FRN 381 | History-Frn Cinema |  |
| FRN 450 | French Literature |  |
| FRN 452 | Old Wrld Meets New |  |
| GER 351 | German Film |  |
| GER 361 | Survey of Ger Lit I |  |
| GER 362 | Survey of Ger Lit II |  |
| GER 450 | German Literature |  |
| ITA 361 | Survey-Italn Lit I |  |
| ITA 362 | Survey-Italn Lit II |  |
| RUS 361 | Survey-Russian Lit |  |
| SPN 361 | Survy-Spanish Lit I |  |
| SPN 362 | Survy-Spanish Lit II |  |
| SPN 363 | Surv Spn Am Lit I |  |
| SPN 364 | Surv Spn Am Lit II |  |
| SPN 380 | Spn\&lbero-Amr Cinema |  |
| SPN 450 | Spanish Literature |  |
| SPN 451 | Spn-Amer Literature |  |
| SPN 471 | TP:Spn Lit-20th Cent |  |
| SPN 472 | Spn Lit-20th Cent II |  |
| SPN 480 | Spn\&lbero-Amr Cinema |  |
| Concentration (Africa in World Affairs) |  |  |
| ANT 356 | Cultures of Africa | 3 |
| HST 336 | Hst-Africa 19th Cn | 3 |
| HST 337 | Hst Afr-19th Cn-Pr | 3 |
| HST 385 | Atlantic World | 3 |
| PHL 363 | African Philosophy | 3 |
| PHL 365 | Islamic Phi\& Culture | 3 |
| REL 308 | Islam | 3 |
| SOC 328 | Racial\&Eth Minorties | 3 |
| Foreign language appropriate to concentration ${ }^{6}$ |  | 6 |

Liberal Studies Curriculum

| ASI $150 \quad$ Intr to the Univ Exp | 1 |
| :--- | :---: |
| Communication Competencies | $3-9$ |

Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course.

4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L 2 requirement.

## Bachelor of Arts with a major in International Studies-Certificate in International Business-Economics/ Finance Concentration (INS)

International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon $^{2}$ | 3 |
| ECO 204 | Prin of Macroecon $^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |

ASI 110 Dev West Global Ctxt
HST 103 West and World
Select one course from: 3
PHL 358 Marxist Philosophy
PHL 370 Political Philosophy
Select one course from:
POL 101 Global Politics
POL 214 Intro-Intrntl Poltcs
Select one course from: 3
HST 375 US Foreign Relations
POL 408 Amer Foreign Policy
Select one course from: ${ }^{5}$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |


| ITA 362 | Survey-Italn Lit II |  |
| :---: | :---: | :---: |
| RUS 361 | Survey-Russian Lit |  |
| SPN 361 | Survy-Spanish Lit I |  |
| SPN 362 | Survy-Spanish Lit II |  |
| SPN 363 | Surv Spn Am Lit I |  |
| SPN 364 | Surv Spn Am Lit II |  |
| SPN 380 | Spn\&Ibero-Amr Cinema |  |
| SPN 450 | Spanish Literature |  |
| SPN 451 | Spn-Amer Literature |  |
| SPN 471 | TP:Spn Lit-20th Cent |  |
| SPN 472 | Spn Lit-20th Cent II |  |
| SPN 480 | Spn\&Ibero-Amr Cinema |  |
| Economics/Finance) ${ }^{7}$ |  |  |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| INB 450 | Capstone Intrnl Bus | 3 |
| Select two courses from: |  | 6 |
| ECO 460 | Eco Develop \& Growth |  |
| ECO 461 | International Econ |  |
| FIN 450 | Interntl Bus Finance |  |
| Select two courses from: |  | 6 |
| ANT 356 | Cultures of Africa |  |
| HST 315 | Europe 1945-Present |  |
| HST 326 | Hst-Sov Un 1860-Pr |  |
| HST 330 | Hst E Asia to 1800 |  |
| HST 332 | Modern China\&Japan |  |
| HST 333 | Hst of Mode Mdle East |  |
| HST 334 | Hst Pal-Isrl Cflct |  |
| HST 337 | Hst Afr-19th Cn-Pr |  |
| HST 353 | Hst-Wom in Eurp Soc |  |
| HST 354 | Hst-Women Mid East |  |
| HST 356 | Women in Third World |  |
| HST 357 | Latin Amer-20th Cen |  |
| HST 382 | History of Mexico |  |
| HST 383 | Hst of Caribbean |  |
| POL 320 | Western Europe |  |
| POL 321 | Russia\&New States |  |
| Foreign language appropriate to concentration ${ }^{6}$ |  | 6 |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 6 |
| Social Sciences |  | 12 |
| Total Hours - general education courses/academic electives to total at least |  | 124 |

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208 or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 Students pursuing this concentration must take into account prerequisites or class standing restrictions. The certificate program includes ECO 203 and ECO 204, already core requirements for the major.

## Bachelor of Arts with a major in International Studies-Certificate in International Business-Marketing/Human Resources Concentration (INS)

International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |
| HST 198 | HST Scholars Sem |

Select one course from:

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:
POL 101 Global Politics
POL 214 Intro-Intrntl Poltcs
Select one course from:
HST 375 US Foreign Relations
POL 408 Amer Foreign Policy
Select one course from: ${ }^{5} 3$

| FRN 341 | Frn Culture \& Civ |
| :---: | :---: |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |
| RUS 361 | Survey-Russian Lit |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |
| SPN 480 | Spn\&lbero-Amr Cinema |
| Concentration (Certificate in International Business - Marketing/ HR) ${ }^{7}$ |  |
| ACC 207 | Intro-Financial Acc |
| INB 450 | Capstone Intrnl Bus |
| MGT 301 | Organiztnl Behavior |
| MKT 301 | Prin of Marketing |
| Select two courses from: |  |
| ECO 460 | Eco Develop \& Growth |
| MGT 403 | Cross-Cult Managemnt |
| MGT 414 | Multinantinl Corp Mgt |
| MKT 340 | Multicultrl Mkt Anly |
| MKT 440 | Global Marketing |
| Select two courses from: |  |
| ANT 356 | Cultures of Africa |
| HST 315 | Europe 1945-Present |
| HST 326 | Hst-Sov Un 1860-Pr |
| HST 330 | Hst E Asia to 1800 |
| HST 332 | Modern China\&Japan |
| HST 333 | Hst of Mode Mdle East |
| HST 334 | Hst Pal-Isrl Cflct |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 353 | Hst-Wom in Eurp Soc |
| HST 354 | Hst-Women Mid East |
| HST 356 | Women in Third World |
| HST 357 | Latin Amer-20th Cen |
| HST 382 | History of Mexico |
| HST 383 | Hst of Caribbean |
| POL 320 | Western Europe |
| POL 321 | Russia\&New States |

Foreign language appropriate to concentration ${ }^{6} \quad 6$
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124

at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208 or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345

6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 Students pursuing this concentration must take into account prerequisites or class standing restrictions.

## Bachelor of Arts with a major in International Studies-Cooperation and Change in the New Europe Concentration (INS)

| International Studies ${ }^{1}$ |  |  |
| :--- | :--- | :--- |
| ANT 150 | Cultural Anthropolgy | 3 |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |


| Select one course from: |  | 3 |
| :---: | :---: | :---: |
| PHL 358 | Marxist Philosophy |  |
| PHL 370 | Political Philosophy |  |
| Select one course from: |  | 3 |
| POL 101 | Global Politics |  |
| POL 214 | Intro-Intrntl Poltcs |  |
| Select one course from: |  | 3 |
| HST 375 | US Foreign Relations |  |
| POL 408 | Amer Foreign Policy |  |
| Select one course from: ${ }^{5}$ |  | 3 |
| FRN 341 | Frn Culture \& Civ |  |
| FRN 361 | Survey-French Lit I |  |
| FRN 362 | Survey-French Lit II |  |
| FRN 381 | History-Frn Cinema |  |
| FRN 450 | French Literature |  |
| FRN 452 | Old Wrld Meets New |  |
| GER 351 | German Film |  |
| GER 361 | Survey of Ger Lit I |  |
| GER 362 | Survey of Ger Lit II |  |
| GER 450 | German Literature |  |
| ITA 361 | Survey-Italn Lit I |  |
| ITA 362 | Survey-Italn Lit II |  |
| RUS 361 | Survey-Russian Lit |  |
| SPN 361 | Survy-Spanish Lit I |  |
| SPN 362 | Survy-Spanish Lit II |  |
| SPN 363 | Surv Spn Am Lit I |  |
| SPN 364 | Surv Spn Am Lit II |  |
| SPN 380 | Spn\&lbero-Amr Cinema |  |
| SPN 450 | Spanish Literature |  |
| SPN 451 | Spn-Amer Literature |  |
| SPN 471 | TP:Spn Lit-20th Cent |  |
| SPN 472 | Spn Lit-20th Cent II |  |
| SPN 480 | Spn\&Ibero-Amr Cinema |  |
| Concentration (Cooperation and Change in the New Europe) |  |  |
| HST 315 | Europe 1945-Present | 3 |
| POL 320 | Western Europe | 3 |
| POL 321 | Russia\&New States | 3 |
| Select three courses from: |  | 9 |

Select three courses from: 9
HST 313 Europe 1815-1914
HST 314 Europe 1890-1945
HST 321 Modern France
HST 322 History of England
HST 326 Hst-Sov Un 1860-Pr
HST 327 Natnl Cult-Sov Union
HST 353 Hst-Wom in Eurp Soc
POL 331 Ntlsm \& Ethno Poltcs
REL 366 The Holocaust
Select one course from:

| PHL 352 | Modern Philosophy |
| :--- | :--- |
| PHL 353 | Kant\&19th Cent Phl |
| PHL 354 | 20th Century Phl |
| PHL 358 | Marxist Philosophy ${ }^{7}$ |

PHL 353 Kant\&19th Cent Phl

PHL 358 Marxist Philosophy ${ }^{7}$

| PHL 360 | Existentialism |
| :--- | :--- |
| PHL 370 | Political Philosophy ${ }^{7}$ |
| POL 319 | 20th Cent Pol Thgt |

Select one course from:

| VAH 203 | Survey of Art III |
| :--- | :--- |
| VAH 450 | Itl Renaissance Art |
| VAH 480 | 20th Century Art I |
| VAH 483 | 20th Century Art II |

Foreign language appropriate to concentration ${ }^{6}$6
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124

at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g. ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 This course can be taken for this requirement only if not taken to fulfill the core requirement.

## Bachelor of Arts with a major in International Studies-Global Economic Development Concentration (INS)

## International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |


| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| :---: | :---: | :---: |
| or INS 495 | InterntI Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: |  | 3 |
| ASI 110 | Dev West Global Ctxt |  |
| HST 103 | West and World |  |
| Select one course from: |  | 3 |
| PHL 358 | Marxist Philosophy |  |
| PHL 370 | Political Philosophy |  |
| Select one course from: |  | 3 |
| POL 101 | Global Politics |  |
| POL 214 | Intro-Intrntl Poltcs |  |
| Select one course from: |  | 3 |
| HST 375 | US Foreign Relations |  |
| POL 408 | Amer Foreign Policy |  |
| Select one course from: ${ }^{5}$ |  | 3 |
| FRN 341 | Frn Culture \& Civ |  |
| FRN 361 | Survey-French Lit I |  |
| FRN 362 | Survey-French Lit II |  |
| FRN 381 | History-Frn Cinema |  |
| FRN 450 | French Literature |  |
| FRN 452 | Old Wrld Meets New |  |
| GER 351 | German Film |  |
| GER 361 | Survey of Ger Lit I |  |
| GER 362 | Survey of Ger Lit II |  |
| GER 450 | German Literature |  |
| ITA 361 | Survey-Italn Lit I |  |
| ITA 362 | Survey-Italn Lit II |  |
| RUS 361 | Survey-Russian Lit |  |
| SPN 361 | Survy-Spanish Lit I |  |
| SPN 362 | Survy-Spanish Lit II |  |
| SPN 363 | Surv Spn Am Lit I |  |
| SPN 364 | Surv Spn Am Lit II |  |
| SPN 380 | Spn\&lbero-Amr Cinema |  |
| SPN 450 | Spanish Literature |  |
| SPN 451 | Spn-Amer Literature |  |
| SPN 471 | TP:Spn Lit-20th Cent |  |
| SPN 472 | Spn Lit-20th Cent II |  |
| SPN 480 | Spn\&lbero-Amr Cinema |  |

## Concentration (Global Economic Development)

| ANT 320 | Anthro of Childhoods | 3 |
| :--- | :--- | :--- |
| ECO 460 | Eco Develop \& Growth | 3 |
| ECO 461 | International Econ | 3 |
| PHL 372 | Values \& Economics | 3 |
| SOC 339 | Social Inequality | 3 |
| Select one course from: | 3 |  |

$\begin{array}{ll}\text { POL } 333 & \text { Pol of Human Rghts } \\ \text { SOC } 371 & \text { Soc of Human Rights }\end{array}$
Select one course from:

PHL 355 Asian Philosophy

## Bachelor of Arts with a major in International Studies-Global Environmental Sustainability Concentration (INS)

International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |

Select one course from: 3

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from: 3
POL 101 Global Politics
POL 214 Intro-Intrntl Poltcs
Select one course from: 3

| HST 375 | US Foreign Relations |
| :--- | :--- |
| POL 408 | Amer Foreign Policy |

Select one course from: ${ }^{5}$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |
| RUS 361 | Survey-Russian Lit |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |

5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 This course counts for biology majors, but is accessible to nonmajors as well.
8 This course is taught in Costa Rica. It counts for biology majors, but is open to non-majors as well.

## Bachelor of Arts with a major in International Studies-International Journalism Concentration (INS)

International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon $^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |
| elect one course from: |  |


| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:
POL $101 \quad$ Global Politics
POL 214 Intro-Intrntl Poltcs
$\begin{array}{cl}\text { Select one course from: } \\ \text { HST } 375 & \text { US Foreign Relations } \\ \text { POL } 408 & \text { Amer Foreign Policy }\end{array}$
Select one course from: ${ }^{5} 3$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |


| RUS 361 | Survey-Russian Lit |
| :--- | :--- |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |
| SPN 480 | Spn\&lbero-Amr Cinema |
| Concentration (International Journalism) ${ }^{7}$ |  |
| CMM 330 | Media Writing |
| CMM 331 | Feature Writing |
| CMM 350 | Propaganda Analysis |
| CMM 355 | Rhetoric-Soc Movements |
| CMS 414 | Global Communication |


| ANT 356 | Cultures of Africa |
| :--- | :--- |
| HST 326 | Hst-Sov Un 1860-Pr |
| HST 330 | Hst E Asia to 1800 |
| HST 332 | Modern China\&Japan |
| HST 333 | Hst of Mode Mdle East |
| HST 334 | Hst Pal-Isrl Cflct |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 353 | Hst-Wom in Eurp Soc |
| HST 354 | Hst-Women Mid East |
| HST 356 | Women in Third World |
| HST 357 | Latin Amer-20th Cen |
| HST 382 | History of Mexico |
| HST 383 | Hst of Caribbean |
| POL 320 | Western Europe |
| POL 321 | Russia\&New States |

Select one course from: 3
PHL 355 Asian Philosophy
PHL 363 African Philosophy
PHL 365 Islamic Phl\& Culture
REL 304 Hinduism
REL 305 Eastern Orthodoxy
REL 306 Buddhism
REL 307 Judaism
REL 308 Islam
Foreign language appropriate to concentration ${ }^{6} \quad 6$
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp 1
Communication Competencies 3-9
Creative and Performing Arts 3
History 6
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11

| Philosophy and Religious Studies | 6 |
| :--- | :---: |
| Social Sciences | 12 |

Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 Students may substitute CMM 315, CMM 439, CMM 449, or a CMM course delivered in conjunction with a CMM summer education abroad program for one of the CMM or CMS courses when the topic has an international focus.

## Bachelor of Arts with a major in International Studies-Marianist Social Transformation Concentration (ins)

International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods $^{3}$ | 1 |
| INS 395 | InterntI Experience $^{4}$ | 1 |
| or INS 495 | InterntI Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |

Select one course from: 3

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:
POL 101 Global Politics
POL 214 Intro-Intrntl Poltcs
Select one course from:

POL 408 Amer Foreign Policy
Select one course from: ${ }^{5} 3$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |
| RUS 361 | Survey-Russian Lit |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |
| SPN 480 | Spn\&lbero-Amr Cinema |


| Concentration (Marianist Social Transformation) |  |  |
| :--- | :--- | :--- |
| ASI 358 | Chrstny,Ctzshp\&Socty | 3 |
| ASI 374 | Prf Eth Glgl Cm-Phl | 3 |
| or ASI 375 | Prf Eth Glgl Cm-Rel |  |
| MST 210 | Spkrs Cath Socl Trad | 1 |
| MST 310 | Read Signs Time | 3 |
| or MST 311 Read Signs Time <br> or MST 312 Readng-Signs-Times |  |  |
| Select two courses from: $^{7}$ |  |  |

Select two courses from: ${ }^{7}$

| PHL 327 | Philosophy of Peace |
| :--- | :--- |
| PHL 356 | Christian Philosophy |
| POL 333 | Pol of Human Rghts |
| REL 323 | Hst-Christianty I |
| REL 324 | Hst-Christianty II |
| REL 358 | Liberation Theology |
| SOC 334 | Religion \& Society |
| SOC 339 | Social Inequality |
| SOC 371 | Soc of Human Rights |

Select one course from:

| PHL 355 | Asian Philosophy |
| :--- | :--- |
| PHL 363 | African Philosophy |
| PHL 365 | Islamic Phl\& Culture |
| REL 304 | Hinduism |
| REL 305 | Eastern Orthodoxy |
| REL 306 | Buddhism |
| REL 307 | Judaism |
| REL 308 | Islam |

Select two courses from:

| ANT 356 | Cultures of Africa |
| :--- | :--- |
| HST 326 | Hst-Sov Un 1860-Pr |
| HST 330 | Hst E Asia to 1800 |
| HST 332 | Modern China\&Japan |
| HST 333 | Hst of Mode Mdle East |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 353 | Hst-Wom in Eurp Soc |
| HST 354 | Hst-Women Mid East |
| HST 356 | Women in Third World |
| HST 357 | Latin Amer-20th Cen |
| HST 382 | History of Mexico |
| HST 383 | Hst of Caribbean |
| POL 320 | Western Europe |
| POL 321 | Russia\&New States |

Foreign language appropriate to concentration ${ }^{6}$
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.
7 Must be from two different disciplines.

## Bachelor of Arts with a major in International Studies-Migration Concentration (INS)

| International Studies ${ }^{1}$ |  |  |
| :--- | :--- | :--- |
| ANT 150 | Cultural Anthropolgy | 3 |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon $^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |

Select one course from: 3

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:

| POL 101 | Global Politics |
| :--- | :--- |
| POL 214 | Intro-Intrntl Poltcs |

Select one course from: 3

| HST 375 | US Foreign Relations |
| :--- | :--- |
| POL 408 | Amer Foreign Policy |

Select one course from: ${ }^{5} 3$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |
| GER 351 | German Film |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |
| RUS 361 | Survey-Russian Lit |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |
| SPN 480 | Spn\&lbero-Amr Cinema |


| Concentration (Migration) |  |  |
| :---: | :---: | :---: |
| HST 378 | Hst Globl Immgnts-US | 3 |
| POL 333 | Pol of Human Rghts | 3 |
| SOC 328 | Racial\&Eth Minorties | 3 |
| ANT 368 | Immigration | 3 |
| or SOC 368 | Immigration |  |
| Select one course from: |  | 3 |
| POL 334 | Pol-Human Rights II |  |
| SOC 371 | Soc of Human Rights |  |
| Select one course from: |  | 3 |
| PHL 355 | Asian Philosophy |  |
| PHL 363 | African Philosophy |  |
| PHL 365 | Islamic PhI\& Culture |  |
| REL 304 | Hinduism |  |
| REL 305 | Eastern Orthodoxy |  |
| REL 306 | Buddhism |  |
| REL 307 | Judaism |  |
| REL 308 | Islam |  |
| Select two courses from: |  | 6 |
| ANT 356 | Cultures of Africa |  |
| HST 326 | Hst-Sov Un 1860-Pr |  |
| HST 327 | Natnl Cult-Sov Union |  |
| HST 330 | Hst E Asia to 1800 |  |
| HST 332 | Modern China\&Japan |  |
| HST 333 | Hst of Mode Mdle East |  |
| HST 334 | Hst Pal-Isrl Cflct |  |
| HST 337 | Hst Afr-19th Cn-Pr |  |
| HST 353 | Hst-Wom in Eurp Soc |  |
| HST 354 | Hst-Women Mid East |  |
| HST 356 | Women in Third World |  |
| HST 357 | Latin Amer-20th Cen |  |
| HST 382 | History of Mexico |  |
| HST 383 | Hst of Caribbean |  |
| POL 320 | Western Europe |  |
| POL 321 | Russia\&New States |  |
| POL 331 | Ntlsm \& Ethno Poltcs |  |
| Foreign language appropriate to concentration ${ }^{6}$ |  | 6 |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 6 |
| Social Sciences |  | 12 |
| Total Hours - general education courses/academic electives to total at least |  | 124 |

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course.
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement.

## Bachelor of Arts with a major in International Studies-Peace and Global Security Concentration (INs)

## International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience ${ }^{4}$ | 1 |
| or INS 495 | Interntl Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |

Select one course from: 3

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:
POL 101 Global Politics
POL 214 Intro-Intrntl Poltcs
Select one course from: 3
HST 375 US Foreign Relations
POL 408 Amer Foreign Policy
Select one course from: ${ }^{5} 3$

| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |


| GER 351 | German Film |
| :--- | :--- |
| GER 361 | Survey of Ger Lit I |
| GER 362 | Survey of Ger Lit II |
| GER 450 | German Literature |
| ITA 361 | Survey-Italn Lit I |
| ITA 362 | Survey-Italn Lit II |
| RUS 361 | Survey-Russian Lit |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |
| SPN 363 | Surv Spn Am Lit I |
| SPN 364 | Surv Spn Am Lit II |
| SPN 380 | Spn\&lbero-Amr Cinema |
| SPN 450 | Spanish Literature |
| SPN 451 | Spn-Amer Literature |
| SPN 471 | TP:Spn Lit-20th Cent |
| SPN 472 | Spn Lit-20th Cent II |
| SPN 480 | Spn\&lbero-Amr Cinema |
| Concentration | (Peace and Global Security) |


| Concentration (Peace and Global Security) |  |  |
| :--- | :--- | :--- |
| ANT 320 | Anthro of Childhoods | 3 |
| POL 335 | US Natnl Sec Policy | 3 |
| POL 406 | Internatnl Law\&Organ | 3 |
| POL 452 | Political Violence | 3 |
| Select one course from: | 3 |  |


| HST 349 | Tech\&Culture-War |
| :--- | :--- |
| HST 373 | American Mil Hst |

Select one course from:

| PHL 317 | Ethics\&Modern War |
| :--- | :--- |
| PHL 327 | Philosophy of Peace |

Select one course from:

| ANT 356 | Cultures of Africa |
| :--- | :--- |
| HST 324 | Comp Nationalism |
| HST 326 | Hst-Sov Un 1860-Pr |
| HST 327 | Natnl Cult-Sov Union |
| HST 332 | Modern China\&Japan |
| HST 333 | Hst of Mode Mdle East |
| HST 334 | Hst Pal-Isrl Cflct |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 357 | Latin Amer-20th Cen |
| POL 320 | Western Europe |
| POL 321 | Russia\&New States |
| POL 331 | Ntlsm \& Ethno Poltcs |

Select one course from: 3

| PHL 355 | Asian Philosophy |
| :--- | :--- |
| PHL 363 | African Philosophy |
| PHL 365 | Islamic Phl\& Culture |
| REL 304 | Hinduism |
| REL 305 | Eastern Orthodoxy |
| REL 306 | Buddhism |
| REL 307 | Judaism |
| REL 308 | Islam |

Foreign language appropriate to concentration ${ }^{6}$

ASI $150 \quad$ Intr to the Univ Exp 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.

2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.
3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course
4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L 2 requirement

## Bachelor of Arts with a major in International Studies-Women's and Gender Issues in a Global Context Concentration (ins)

## International Studies ${ }^{1}$

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :--- | :--- |
| ANT 306 | Culture and Power | 3 |
| ECO 203 | Prin of Microecon ${ }^{2}$ | 3 |
| ECO 204 | Prin of Macroecon $^{2}$ | 3 |
| INS 250 | INS Research Methods ${ }^{3}$ | 1 |
| INS 395 | Interntl Experience $^{4}$ | 1 |
| or INS 495 | InterntI Internship |  |
| INS 499 | INS Senior Capstone | 3 |
| POL 202 | Intro Comp Politics | 3 |
| REL 363 | Faith \& Justice | 3 |
| Select one course from: | 3 |  |


| ASI 110 | Dev West Global Ctxt |
| :--- | :--- |
| HST 103 | West and World |

Select one course from: 3

| PHL 358 | Marxist Philosophy |
| :--- | :--- |
| PHL 370 | Political Philosophy |

Select one course from:

| POL 101 | Global Politics |  |
| :---: | :---: | :---: |
| POL 214 | Intro-Intrntl Poltcs |  |
| Select one course from: |  | 3 |
| HST 375 | US Foreign Relations |  |
| POL 408 | Amer Foreign Policy |  |
| Select one course from: ${ }^{5}$ |  | 3 |
| FRN 341 | Frn Culture \& Civ |  |
| FRN 361 | Survey-French Lit I |  |
| FRN 362 | Survey-French Lit II |  |
| FRN 381 | History-Frn Cinema |  |
| FRN 450 | French Literature |  |
| FRN 452 | Old Wrid Meets New |  |
| GER 351 | German Film |  |
| GER 361 | Survey of Ger Lit I |  |
| GER 362 | Survey of Ger Lit II |  |
| GER 450 | German Literature |  |
| ITA 361 | Survey-Italn Lit I |  |
| ITA 362 | Survey-Italn Lit II |  |
| RUS 361 | Survey-Russian Lit |  |
| SPN 361 | Survy-Spanish Lit I |  |
| SPN 362 | Survy-Spanish Lit II |  |
| SPN 363 | Surv Spn Am Lit I |  |
| SPN 364 | Surv Spn Am Lit II |  |
| SPN 380 | Spn\&Ibero-Amr Cinema |  |
| SPN 450 | Spanish Literature |  |
| SPN 451 | Spn-Amer Literature |  |
| SPN 471 | TP:Spn Lit-20th Cent |  |
| SPN 472 | Spn Lit-20th Cent II |  |
| SPN 480 | Spn\&lbero-Amr Cinema |  |
| Concentration (Women's and Gender Issues in a Global Context) |  |  |
| WGS 150 | Intro Wm\&Gndr Stdies | 3 |
| WGS 310 | Fem Thry \& Mthd | 3 |
| Select one course from: |  | 3 |
| REL 471 | Women and Religion |  |
| REL 474 | Women-Global Church |  |
| Select one course from: |  | 3 |
| SOC 322 | Sex Roles \& Society |  |
| SOC 332 | Sociology of Women |  |
| Select one course from: |  | 3 |
| SOC 339 | Social Inequality |  |
| SOC 371 | Soc of Human Rights |  |
| Select one course from: |  | 3 |
| PHL 307 | Philosophy and Women |  |
| PHL 364 | Race, Gender\&Phl |  |
| Select one course from: |  | 3 |
| HST 353 | Hst-Wom in Eurp Soc |  |
| HST 354 | Hst-Women Mid East |  |
| HST 356 | Women in Third World |  |
| Select one course from: |  | 3 |
| ANT 356 | Cultures of Africa |  |
| HST 326 | Hst-Sov Un 1860-Pr |  |

## Concentration (Women's and Gender Issues in a Global Context)

WGS 150 Intro Wm\&Gndr Stdies 3
WGS $310 \quad$ Fem Thry \& Mthd 3
Select one course from: 3
$\begin{array}{ll}\text { REL 471 } & \text { Women and Religion } \\ \text { REL 474 } & \text { Women-Global Church }\end{array}$
Select one course from: 3

Select one course from: 3
SOC 339 Social Inequality
SOC 371 Soc of Human Rights
Select one course from: 3
PHL $307 \quad$ Philosophy and Women
PHL 364 Race, Gender\&Phl
Select one course from:

Select one course from:

| HST 330 | Hst E Asia to 1800 |
| :--- | :--- |
| HST 332 | Modern China\&Japan |
| HST 333 | Hst of Mode Mdle East |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 357 | Latin Amer-20th Cen |
| HST 382 | History of Mexico |
| HST 383 | Hst of Caribbean |
| POL 320 | Western Europe |
| POL 321 | Russia\&New States |

Foreign language appropriate to concentration ${ }^{6}$ ..... 6
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 6
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.
2 This course may count double within the major for students who opt to fulfill their concentration with one of the certificates in International Business.

3 May substitute CMM 412, HST 301, POL 207, SOC 208, or another approved research methods course

4 Students unable to satisfy this requirement with a study abroad experience because of other commitments (e.g., ROTC members) must fulfill this requirement with an internationally oriented internship.
5 Students studying a language for which a literature, culture, or film course does not currently exist must fulfill this requirement by taking ENG 205, ENG 322, or ENG 345.
6 Must be at 300 level or above and exclusive of literature, film, or culture courses. There are currently no 300 level courses offered in Arabic or Mandarin Chinese. In these cases, students are required to complete the highest level course offered. Completion satisfies the L2 requirement

## Minor in International Studies (ins)

## International Studies

ECO 204 Prin of Macroecon 3
POL 214 Intro-Intrntl Poltcs 3
Select one LNG course (202 level or above) 3

| Select four INS courses (300/400 level) ${ }^{1}$ | 12 |
| :--- | :--- |
| Tolal |  |

Total Hours
21
1 Must be from at least three different disciplines, taken from International Studies core curriculum or concentrations.

## Courses

## INS 250. INS Research Methods. 1 Hour

RESEARCH METHODS - An introduction to the practice of locating aids and source materials needed to conduct research on international topics. Prerequisite(s): Permission of program director.

## INS 390. Model United Nations. 1 Hour

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(s): Permission of instructor.

## INS 395. Interntl Experience. 1 Hour

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.

## INS 399. Independent Study. 1-3 Hours

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(s): Permission of program director.

## INS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## INS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## INS 495. Interntl Internship. 1-6 Hours

INTERNATIONAL STUDIES INTERNSHIP - Practical, supervised experience with an approved organization dealing with international affairs. Repeatable up to six hours. Prerequisite(s): Permission of program director.

## INS 499. INS Senior Capstone. 3 Hours

SENIOR CAPSTONE SEMINAR - Capstone seminar for International Studies seniors in which students integrate the academic and experiential components of their multidisciplinary degree program in a capstone research project of their own choosing. Prerequisite(s): INS 250; senior status; permission of program director.

## Languages

Majors:

- Bachelor of Arts, French
- Bachelor of Arts, German
- Bachelor of Arts, Languages
- Bachelor or Arts, Spanish

Minors:

- French
- German
- Italian
- Spanish

The Department of Languages offers instruction in Arabic, Chinese (Mandarin), French, German, Italian, Latin, Russian, and Spanish and thus brings a distinctively international perspective to the university community. The language programs focus on the development of proficiency in speaking, writing, reading, and listening, and integrate the study of literature, linguistics, business and culture. The department also offers a few literature and culture courses taught in English:

| CLA 350 | Classcl Lit-Transltn | 3 |
| :--- | :--- | :--- |
| FRN 350 | French Lit In Trnsl | 3 |
| FRN 352 | Old World\&New (ENG) | 3 |
| GER 350 | German Lit In Trns | 3 |
| GER 351 | German Film | 3 |
| HMS 360 | Latin Amer Tru Lit | 3 |
| SPN 350 | Hispnic Lit In Trans | 3 |
| SPN 380 | Spn\&lbero-Amr Cinema | 3 |

Each summer, the Department of Languages conducts one-month language-immersion study programs in China, France, Germany, Italy, and Latin America or Spain (alternate years). Participants in these programs can earn up to seven semester hours of language credit.
Students in B.A. programs can acquire teacher licensure in French, German, or Spanish through the E6 or E11A programs (see EDT). For details consult the department chairperson.
All new students who have previously studied their language of choice continue their study in courses in which all enrolled students are at approximately the same level of proficiency. Students' proficiency levels for the first enrollment in a language class are determined by the results of the department's two-phase placement examination. Credit, but not placement, is awarded for scores of three or higher on the Advanced Placement language examinations.
Students may choose a major (twenty-five semester hours at the 300level or higher) in a single language (French, German, or Spanish) or a composite major in two languages (one of which may be Italian). Many students combine a major in the department with a major in another discipline.

A minor in French, German, Italian, or Spanish consists of twelve semester hours at the 300-level or higher.
Courses beyond the 100-level in Latin and Russian are not offered on a regular basis. Please consult the department chairperson for details.

## Faculty

Francisco Peñas-Bermejo, Chairperson
Professors Emeriti: Chiodo, Conard, O'Meara, Romaguera
Professors: Castro, Peñas-Bermejo
Visiting Professor: Wang
Associate Professors: Espinoza, Krugh, Mosher
Assistant Professors: Costales, Ventura, Villa, Work
Lecturers: Figueroa, Schellhammer, Tanova, Tello-Sánchez, Williams
Bachelor of Arts with a major in French
(frn)

| French $^{1}$ |  |  |
| :--- | :--- | :---: |
| FRN 311 | French Conversatn I | 3 |
| or FRN 312 | Frnch Conversatn II |  |
| FRN 321 | Frn Composition I | 3 |
| or FRN 322 | Frn Composition II | 1 |
| LNG 495 | Lang in Careers | 6 |


| FRN 341 | Frn Culture \& Civ |
| :--- | :--- |
| FRN 360 | Explicatn De Textes |
| FRN 361 | Survey-French Lit I |
| FRN 362 | Survey-French Lit II |
| FRN 381 | History-Frn Cinema |
| FRN 450 | French Literature |
| FRN 452 | Old Wrld Meets New |

Select four FRN electives (300/400 level) ${ }^{1}$ ..... 12
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 12
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124 at least

1 Only one literature in translation course may count toward the major. Students in the E11A program should note that courses in translation do not count toward the forty-five semester hours of a foreign language required for teacher certification.

## Bachelor of Arts with a major in German (ger)

| German |  |  |
| :---: | :---: | :---: |
| GER 311 | Ger Conversation I | 3 |
| or GER 312 | Ger Conversation II |  |
| GER 321 | Ger Composition I | 3 |
| or GER 322 | Ger Composition II |  |
| LNG 495 | Lang in Careers | 1 |
| Select two courses from (at least one must be in literature): |  | 6 |
| GER 341 | Ger Culture\&Civilzn |  |
| GER 361 | Survey of Ger Lit I |  |
| GER 362 | Survey of Ger Lit II |  |
| GER 450 | German Literature |  |
| Select four GER electives (300/400 level) ${ }^{1}$ |  | 12 |

## Liberal Studies Curriculum

ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 12
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least
1 Only one literature in translation course may count toward themajor. Students in the E11A program should note that courses intranslation do not count toward the forty-five semester hours of aforeign language required for teacher certification.
Bachelor of Arts with a major in Languages (Ing)
Languages ${ }^{1}$
LNG 495 Lang in Careers ..... 1
Composite major in Language ${ }^{2}$ ..... 24
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 12
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Students in the E11A program should note that courses in translation do not count toward the forty-five semester hours of a foreign language required for teacher certification.
2 Upper-level courses to total twenty-four semester hours distributed between two languages. Courses must include at least one three-semester-hour literature course, not including literature in translation. (Only one literature in translation may count toward the major.)

## Bachelor of Arts with a major in Spanish (spn)

| Spanish |  |  |
| :--- | :--- | :--- |
| LNG 495 | Lang in Careers | 1 |
| SPN 311 | Spn Conversation I | 3 |
| or SPN 312 | Spn Conversation II |  |
| SPN 321 | Spn Composition I | 3 |
| or SPN 322 | Spn Composition II |  |
| Select two courses from (at least one must be in literature): |  | 6 |


| SPN 341 | Spanish Cult\&Civ |
| :--- | :--- |
| SPN 342 | Ibero-Amer Cult \& Civ |
| SPN 361 | Survy-Spanish Lit I |
| SPN 362 | Survy-Spanish Lit II |



## Arabic Courses

## ARA 101. Basic Profncy ARA I. 4 Hours

BASIC PROFICIENCY IN ARABIC I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied Arabic or have placed in this course by examination.

## ARA 141. Basic Profncy ARA II. 4 Hours

BASIC PROFICIENCY IN ARABIC II - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): ARA 101 or placement by examination.

## ARA 201. Intermed ARA I. 4 Hours

INTERMEDIATE ARABIC I - Expansion and extension of proficiency and intercultural skills in reading, listening, writing, and speaking through conversation practice, reading assignments, composition assignments, and grammar exercises. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): ARA 141 or placement by examination.

## ARA 202. Intermed ARA II. 4 Hours

INTERMEDIATE ARABIC II - Continued development of proficiency and intercultural skills in reading, listening, writing, and speaking through conversation practice, reading assignments, composition assignments, and grammar exercises. Prerequisite(s): ARA 201 or placement by examination.

## Chinese Courses

CHI 101. Basic Profncy CHI I. 4 Hours
BASIC PROFICIENCY IN MANDARIN CHINESE I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied Mandarin Chinese or have placed into this course by examination.

## CHI 141. Basic Profncy CHI II. 4 Hours

BASIC PROFICIENCY IN MANDARIN CHINESE II - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): CHI 101 or placement by examination.

## CHI 170. Study Abroad. 3 Hours

STUDY ABROAD - Study in a foreign country/region whose everyday language is Chinese, focusing on the culture and civilization of the country. Conducted in English. Available only during the summer session. Repeatable when topic and content change. Prerequisite(s): CHI 101 (may be taken as a corequisite).

## CHI 201. Intermed CHI I. 4 Hours

INTERMEDIATE MANDARIN CHINESE I - Expansion and extension of proficiency and intercultural skills in reading, listening, writing, and speaking through conversation practice, reading assignments, composition assignments, and grammar exercises. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): CHI 141 or placement by examination.

## CHI 202. Intermed CHI II. 4 Hours

INTERMEDIATE MANDARIN CHINESE II - Continued development of proficiency and intercultural skills in reading, listening, writing, and speaking through conversation practice, reading assignments, composition assignments, and grammar exercises. Prerequisite(s): CHI 201 or placement by examination.

## CHI 391. Directed Study. 1-3 Hours

DIRECTED STUDY - Guided study on selected topics and/or issues involving language proficiency, literature, linguistics or culture under the supervision of an instructor. Admission to this course and number of semester hours require approval of the chairperson. May be repeated when topic changes. Prerequisite(s): CHI 202; permission of department chairperson.

## French Courses

## FRN 101. Basic Profncy FRN I. 4 Hours

BASIC PROFICIENCY IN FRENCH - I Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied French or have placed into this course by examination.

## FRN 131. Intnsve FundmntI FRN. 2 Hours

INTENSIVE FUNDAMENTAL FRENCH - Intensive development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission restricted to those who have previous experience with the language and place into this course by examination. Credit granted for only ONE of the following: FRN 101 or FRN 131.

## FRN 141. Basic Profncy Frn II. 4 Hours

BASIC PROFICIENCY IN FRENCH - II Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): (FRN 101 or FRN 131) or placement by examination.

## FRN 201. Interm French I. 3 Hours

INTERMEDIATE FRENCH I - Development of reading, listening, writing, and speaking skills. Language laboratory required. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): FRN 141.

## FRN 202. Interm French II. 3 Hours

INTERMEDIATE FRENCH II - Development of reading, listening, writing, and speaking skills. Language laboratory required. Prerequisite(s): FRN 201.

## FRN 270. Interm Study Abroad. 1-7 Hours

INTERMEDIATE STUDY ABROAD - Intermediate intensive study in a foreign country/region whose everyday language is French. Instruction in language, culture and civilization. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite(s): FRN 141 or equivalent.

## FRN 311. French Conversatn I. 3 Hours

FRENCH CONVERSATION I - Intensive practice in speaking French to develop oral communication skills. Emphasis on vocabulary development, listening comprehension, simulation of life-like situations, and discussions on French life and culture. Prerequisite(s): FRN 202.

## FRN 312. Frnch Conversatn II. 3 Hours

FRENCH CONVERSATION II - Intensive practice in speaking French to develop oral communication skills. Emphasis on vocabulary development, listening comprehension, simulation of life-like situations, and discussions on French life and culture. Prerequisite(s): FRN 202.

## FRN 321. Frn Composition I. 3 Hours

FRENCH COMPOSITION I - 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. Prerequisite(s): FRN 311 or FRN 312.

## FRN 322. Frn Composition II. 3 Hours

FRENCH COMPOSITION 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. Prerequisite(s): FRN 311 or FRN 312.

## FRN 325. Intro-Commercial Frn. 3 Hours

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(s): FRN 311 or FRN 312.

## FRN 341. Frn Culture \& Civ. 3 Hours

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(s): FRN 311 or FRN 312.

## FRN 350. French Lit In Trnsl. 3 Hours

FRENCH LITERATURE IN TRANSLATION - Course to acquaint students with major topics in French and Francophone literature. Conducted in English. Repeatable when subtitle and content change.

## FRN 352. Old World\&New (ENG). 3 Hours

OLD WORLD MEETS NEW (ENG) - Readings of (1) non-fictional narratives regarding French encounters with American Indians in the sixteenth and seventeenth centuries and (2) literary and philosophical works on this topic. Conducted in English. Students receive credit for either FRN 352 or FRN 452, not both.

## FRN 360. Explicatn De Textes. 3 Hours

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(s): FRN 311 or FRN 312.

## FRN 361. Survey-French Lit I. 3 Hours

SURVEY OF FRENCH LITERATURE I - 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. Prerequisite(s): FRN 311 or FRN 312.

## FRN 362. Survey-French Lit II. 3 Hours

SURVEY OF FRENCH LITERATURE 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. Prerequisite(s): FRN 311 or FRN 312.

## FRN 370. Adv Study Abroad. 1-7 Hours

ADVANCED STUDY ABROAD - Advanced intensive study in a foreign country/region whose everyday language is French, treating its language, culture, and civilization. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite(s): FRN 202 or equivalent.

## FRN 381. History-Frn Cinema. 3 Hours

HISTORY OF FRENCH CINEMA - 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(s): FRN 311 or FRN 312.

## FRN 450. French Literature. 3 Hours

FRENCH LITERATURE - Lectures and discussion concentrating on specialized genres, periods, or authors. Repeatable when subtitle and content change. Prerequisite(s): FRN 311 or FRN 312.

## FRN 452. Old Wrld Meets New. 3 Hours

OLD WORLD MEETS NEW (FRN) - Readings of (1) non-fictional narratives regarding French encounters with American Indians in the sixteenth and seventeenth centuries and (2) literary and philosophical works on this topic. Conducted in French. Students receive credit for either FRN 352 or FRN 452, not both. Prerequisite(s): FRN 311 or FRN 312.

## FRN 469. French Linguistics. 3 Hours

FRENCH LINGUISTICS - Synchronic analysis of modern French language, including a contrast of the French sound system, morphology, and syntax with English structures; the historical derivation of French, creolization, and approaches to teaching French to English-speaking persons. Conducted in French. Prerequisite(s): (FRN 311 or FRN 312); LNG 468.

## FRN 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## FRN 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation wit the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## FRN 491. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of the chairperson. Prerequisite(s): FRN 202; permission of department chairperson.

## German Courses

## GER 101. Basic Profncy GER I. 4 Hours

BASIC PROFICIENCY IN GERMAN I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied German or have placed into this course by examination.

## GER 131. Intnsve Fundmntl Ger. 2 Hours

INTENSIVE FUNDAMENTAL GERMAN - 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(s): GEO 109 or GER 115 or permission of instructor.

## GER 141. Basic Profncy GER II. 4 Hours

BASIC PROFICIENCY IN GERMAN II - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use.
Prerequisite(s): (GER 101 or GER 131) or placement by examination.

## GER 201. Intermed German I. 3 Hours

INTERMEDIATE GERMAN I - 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. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): GER 141.

## GER 202. Intermed German II. 3 Hours

INTERMEDIATE GERMAN 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. Prerequisite(s): GER 201.

## GER 311. Ger Conversation I. 3 Hours

GERMAN CONVERSATION I - Practice to increase listening comprehension and fluency in speaking about topics from the personal and everyday to issues of current interest with focus on describing and narrating in paragraph-length structures. In-depth exploration of cultural commonalities and differences between the German-speaking countries and the United States. Focus on development of vocabulary and practice of expressions essential for oral communication. May be taken in either sequence. Prerequisite(s): GER 202.

## GER 312. Ger Conversation II. 3 Hours

GERMAN CONVERSATION II - Practice to increase listening comprehension and fluency in speaking about topics from the personal and everyday to issues of current interest with focus on describing and narrating in paragraph-length structures. In-depth exploration of cultural commonalities and differences between the German-speaking countries and the United States. Focus on development of vocabulary and practice of expressions essential for oral communication. May be taken in either sequence. Prerequisite(s): GER 202.

## GER 321. Ger Composition I. 3 Hours

GERMAN COMPOSITION I - Practice in personal and topical writing in German that seeks to develop the ability to write well-structured paragraphs. Systematic vocabulary building and grammatical refinement and review. Readings on key issues of the day and/or topics providing crucial insight into German and European thinking and concerns. May be taken in either sequence. Prerequisite(s): GER 311 or GER 312.

## GER 322. Ger Composition II. 3 Hours

GERMAN COMPOSITION II - Practice in personal and topical writing in German that seeks to develop the ability to write well-structured paragraphs. Systematic vocabulary building and grammatical refinement and review. Readings on key issues of the day and/or topics providing crucial insight into German and European thinking and concerns. May be taken in either sequence. Prerequisite(s): GER 311 or GER 312.

## GER 325. Commercial German. 3 Hours

COMMERCIAL GERMAN - Introduction to the business language, customs, and economic profile of the German-speaking countries. Vocabulary of the office and world of trade. Business correspondence. Germany's economic and cultural position and goals within the context of the European Union and the world. Course provides an introduction to working in an international business setting. Prerequisite(s): GER 311 or GER 312 or equivalent.

## GER 341. Ger Culture\&Civilzn. 3 Hours

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(s): GER 311 or GER 312.

## GER 350. German Lit In Trns. 3 Hours

GERMAN LITERATURE IN TRANSLATION - Course to acquaint students with major German writers and literary movements. Conducted in English. Repeatable when subtitle and content change.

## GER 351. German Film. 3 Hours

GERMAN FILM - Introduction to the aesthetic and thematic richness of German film. Students will study the cinema of the Weimar Republic within its historical context and its appropriation by Hollywood. This course will also introduce cross-cultural films having to do with idenity, women, immigrant workers, asylum seekers, postcolonialization, nationalism, social theory, ideology, and political activism. Prerequisite(s): GER 311 or GER 312.

## GER 361. Survey of Ger Lit I. 3 Hours

SURVEY OF GERMAN LITERATURE I - German literary works from 1750 to the present reflecting the philosophy, aesthetics, and concerns of the time. Skills development for reading literary and cultural texts and writing on analytic and interpretative topics. May be taken in either sequence. Prerequisite(s): ((GER 311 or GER 312); (GER 321 or GER 322)) or equivalent.

## GER 362. Survey of Ger Lit II. 3 Hours

SURVEY OF GERMAN LITERATURE II - German literary works from 1750 to the present reflecting the philosophy, aesthetics, and concerns of the time. Skills development for reading literary and cultural texts and writing on analytic and interpretative topics. May be taken in either sequence. Prerequisite(s): ((GER 311 or GER 312); (GER 321 or GER 322)) or equivalent.

## GER 370. Study Abroad. 1-6 Hours

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(s): GER 202.

## GER 450. German Literature. 3 Hours

GERMAN LITERATURE - Lectures and discussions in German in such specialized areas as Medieval lyric, Romanticism, twentieth-century novel, modern drama, and individual authors. Repeatable when subtitle and content change. Prerequisite(s): GER 311 or GER 312.

## GER 469. German Linguistics. 3 Hours

GERMAN LINGUISTICS - Synchronic analysis of modern German language, including a contrast of the German sound system, morphology, and syntax with English structures; the historical derivation of German, the modern German dialects, and approaches to teaching German to English-speakers. Conducted in German. Prerequisite(s): (GER 311 or 312); LNG 468.

## GER 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## GER 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## GER 491. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisite(s): GER 202; permission of instructor.

## Hindi Courses

HND 101. Beginning Hindi I. 3 Hours
BEGINNING HINDI I - Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission to HND 101 restricted to those who have not studied Hindi or have placed into that course by examination. Offered only in India in connection with the B.A. Program in Philosophy. Credit is granted for only one of the following: HND 101, HND 102 or HND 121.

## HND 102. Beginning Hindi II. 3 Hours

BEGINNING HINDI II - Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission to HND 102 is open only to those who have successfully completed 101. Offered only in India in connection with the B.A. Program in Philosophy. Credit is granted for only one of the following: HND 101, HND 102 or HND 121.

## HND 121. Elementary Hindi. 4 Hours

ELEMENTARY HINDI - Review and further development of fundamental communication skills in reading, listening, writing, and speaking.
Admission restricted to those who have studied the language for at least two years and place into the course by examination. Offered only in India in connection with the B.A. Program in Philosophy. Credit granted for only one of the following: HND 101 and HND 102 or HND 121.

## HND 141. Basic Profic Hindi. 3 Hours

BASIC PROFICIENCY IN HINDI - Further development of communication skills in reading, listening, writing, and speaking. Admission by examination or successful completion of HND 102 or HND 121. Successful completion of this course includes the demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. Offered only in India in connection with the B.A. Program in Philosophy.

## HND 201. Intermed Hindi I. 3 Hours

INTERMEDIATE HINDI I - Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern prose and poetry; brief essays in Hindi. Offered only in India in connection with the B.A.. Program in Philosophy. Prerequisite(s): HND 141; previous study of elementary Hindi in school or elsewhere; ability to speak, read, understand, and write simple Hindi.

## HND 202. Intermed Hindi II. 3 Hours

INTERMEDIATE HINDI II - Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern prose and poetry; brief essays in Hindi. Offered only in India in connection with the B.A.. Program in Philosophy. Prerequisite(s): HND 201.

## Italian Courses

## ITA 101. Basic Prfency ITA I. 4 Hours

BEGINNING ITALIAN I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied Italian or have placed into this course by examination.

## ITA 141. Basic Prfncy ITA II. 4 Hours

BASIC PROFICIENCY IN ITALIAN - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): ITA 101 or placement by examination.

## ITA 170. Study Abroad. 3 Hours

STUDY ABROAD - Study in a foreign country/region whose everyday language is Italian, focusing on the culture and civilization of the country. Conducted in English. Available only during the summer session. Repeatable when topic and content change. Prerequisite(s): ITA 101 (may be taken as a corequisite).

## ITA 201. Interm Italian I. 3 Hours

INTERMEDIATE ITALIAN I - Development of reading, listening, writing, and speaking skills. Conversation practice, oral reports, reading assignments, composition assignments, and grammar exercises. The course is conducted in Italian. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): ITA 141.

## ITA 202. Interm Italian II. 3 Hours

INTERMEDIATE ITALIAN II - Development of reading, listening, writing, and speaking skills. Conversation practice, oral reports, reading assignments, composition assignments, and grammar exercises. The course is conducted in Italian. Prerequisite(s): ITA 201.

## ITA 313. Communicatng-Ita I. 3 Hours

COMMUNICATING IN ITALIAN I - 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 course is conducted in Italian. ITA 313 and 314 may be taken in either sequence. Prerequisite(s): ITA 202.

## ITA 314. Communicatng-Ita II. 3 Hours

COMMUNICATING IN ITALIAN 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 course is conducted in Italian. ITA 313 and 314 may be taken in either sequence. Prerequisite(s): ITA 202.

## ITA 341. Ital CultCivilzn I. 3 Hours

ITALIAN CULTURE AND CIVILIZATION I - 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. ITA 341 and 342 may be taken in either sequence. Prerequisite(s): ITA 202.

## ITA 361. Survey-Italn Lit I. 3 Hours

SURVEY OF ITALIAN LITERATURE I - Italian literature from its beginnings in the thirteenth century to the present. Principal writers and literary trends; the techniques of literary analysis. Lectures, discussions, readings, and papers are in Italian. ITA 361 and ITA 362 may be taken in either sequence. Prerequisite(s): ITA 202.

## ITA 362. Survey-Italn Lit II. 3 Hours

SURVEY OF ITALIAN LITERATURE II - Italian literature from its beginnings in the thirteenth century to the present. Principal writers and literary trends; the techniques of literary analysis. Lectures, discussions, readings, and papers are in Italian. ITA 361 and ITA 362 may be taken in either sequence. Prerequisite(s): ITA 202.

## ITA 491. Independent Study. 1-3 Hours

STUDY ABROAD - Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisite(s): ITA 202 or permission of instructor.

## Languages Courses

LNG 101. Beg Language Study. 4 Hours
BEGINNING LANGUAGE STUDY - Development of fundamental communication skills in reading, listening, writing, and speaking with a focus on basic proficiency in survival communication, and familiarization with culture in languages other than those regularly taught in the Department of Languages. May be offered through distance learning or study abroad with the support of the Department of Languages. No previous study of the language is presupposed (for LNG 101 only). Offered with different suffixes according to the language studied.

## LNG 141. Basic Profcy Lang. 4 Hours

BASIC PROFICIENCY IN LANGUAGE - Further development of communication skills in reading, listening, writing, and speaking with a focus on basic proficiency in survival communication, and familiarization with culture in languages other than those regularly taught in the Department of Languages. Offered with different suffixes according to the language studied. Prerequisite(s): LNG 101 in the same language or equivalent.

## LNG 201. Intermed Lang I. 4 Hours

INTERMEDIATE LANGUAGE I - Expansion and extension of listening, speaking, reading, and writing skills through conversation practice, reading assignments, composition assignments, and grammar exercises. Offered with different suffixes according to the language studied. Prerequisite(s): LNG 141 in the same language or equivalent.

## LNG 202. Intermed Lang II. 4 Hours

INTERMEDIATE LANGUAGE II - Continued development of proficiency in listening, speaking, reading and writing through conversation practice, reading assignments, composition assignments, and grammar exercises. Offered with different suffixes according to the language studied. Prerequisite(s): LNG 201 in the same language or equivalent.

## LNG 320. Instruc 2nd Lang Acqstn. 2 Hours

INSTRUCTED SECOND LANGUAGE ACQUISITION - Study of cognitive, linguistic, sociolinguistic, and constructivist approaches to instructed second language acquisition, including the relationship between classroom interaction and language acquisition.

## LNG 330. Tch Wrld Lng-Elm Sch(PK-6). 4 Hours

TEACHING WORLD LANGUAGES IN THE ELEMENTARY SCHOOL (PK-6) - An introduction to the pedagogical, philosophical, and psychological aspects of teaching foreign languages in elementary school. Topics: national and state standards, learners with special needs, reading in the foreign language, and professional associations. Prerequisite(s): EDT 110; at least two 300-level courses in the language to be taught.

## LNG 468. Intro Linguistics. 3 Hours

INTRODUCTION TO LINGUISTICS - Survey of the various aspects of a scientific description of human language: phonetics, phonology, morphology, syntax, semantics, and pragmatics. Interdisciplinary exploration of the reciprocal impact of linguistics on psychology, sociology, and language acquisition theory. Prerequisite(s): CMM 110 or equivalent; ENG 102 or equivalent.

## LNG 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## LNG 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## LNG 495. Lang in Careers. 1 Hour

THE LANGUAGE MAJOR IN PROFESSIONAL CAREERS - Exploration of life-long learning opportunities to maintain and increase functional proficiency in the language studied; the relationship between language proficiency and cross-cultural studies and the application of language proficiency in the work place; determination of the student's proficiencylevel at the conclusion of the undergraduate experience. Required of declared majors in languages (FRN, GER, LNG, and SPN). Taught in English. Prerequisite(s): Completion of 18 credit hours of upper-division courses in language major.

## Latin Courses

LAT 101. Basic Profncy LAT I. 4 Hours
BASIC PROFICIENCY IN LATIN I - Development of basic skills in reading, listening, and writing through extensive practice in language use. Admission is restricted to those who have not studied Latin or have placed into this course by examination.

## LAT 131. Intnsve Fundmntl LAT. 2 Hours

INTENSIVE FUNDAMENTAL LATIN - Intensive development of fundamental skills in reading, listening, and writing through extensive practice in language use. Admission restricted to those who have previous experience with the language and place into this course by examination. Credit granted for only ONE of the following: LAT 101 or LAT 131.

## LAT 141. Basic Profncy LAT II. 4 Hours

BASIC PROFICIENCY IN LATIN II - Further development of fundamental skills in reading, listening, and writing through extensive practice in language use. Prerequisite(s): (LAT 101 or LAT 131) or placement by examination.

## LAT 201. Interm Latin I. 3 Hours

INTERMEDIATE LATIN I - Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Virgil, or Ovid. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): LAT 141.

## LAT 202. Interm Latin II. 3 Hours

INTERMEDIATE LATIN II - Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Virgil, or Ovid. Prerequisite(s): LAT 201.

## LAT 321. Latin Comp \& Syntax. 3 Hours

LATIN COMPOSITION AND SYNTAX - Practice in writing Latin, for enrichment of vocabulary, refinement of grammar, and control of major Latin prose styles. Prerequisite(s): LAT 202.

## LAT 350. Latin Literature. 3 Hours

LATIN LITERATURE - Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. Prerequisite(s): LAT 202.

## LAT 491. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisite(s): LAT 202 or permission of department chairperson.

## Russian Courses

## RUS 101. Basic Profncy Rus I. 4 Hours

BASIC PROFICIENCY IN RUSSIAN I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied Russian or have placed into this course by examination.

## RUS 141. Basic Profncy Rus II. 4 Hours

BASIC PROFICIENCY IN RUSSIAN II - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): RUS 101 or placement by examination.

## RUS 201. Interm Russian I. 3 Hours

INTERMEDIATE RUSSIAN I - Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern and contemporary prose and poetry. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): RUS 141.

## RUS 202. Interm Russian II. 3 Hours

INTERMEDIATE RUSSIAN II - Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern and contemporary prose and poetry. Prerequisite(s): RUS 201.

## RUS 311. Rus Conversation I. 3 Hours

RUSSIAN CONVERSATION I - Vocabulary development, pattern drills, and the use of idioms in discussion and oral reports centered on Russian life and culture. RUS 311 and 312 may be taken in either sequence. Prerequisite(s): RUS 202.

## RUS 312. Rus Conversation II. 3 Hours

RUSSIAN CONVERSATION II - Vocabulary development, pattern drills, and the use of idioms in discussion and oral reports centered on Russian life and culture. RUS 311 and RUS 312 may be taken in either sequence. Prerequisite(s): RUS 202.

RUS 321. Rus Composition. 3 Hours
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(s): RUS 202.

## RUS 361. Survey-Russian Lit. 3 Hours

SURVEY OF RUSSIAN LITERATURE - Russian literature and its development during the nineteenth and twentieth centuries. Study of exemplary works and literary movements. Prerequisite(s): RUS 202.

RUS 491. Independent Study. 1-6 Hours
INDEPENDENT STUDY - Independent study under the guidance of an instructor. Admission to course and number of semester hours require approval of chairperson. Repeatable when content changes.

## Spanish Courses

## SPN 101. Basic Profncy SPN I. 4 Hours

BASIC PROFICIENCY IN SPANISH I - Development of basic communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission is restricted to those who have not studied Spanish or have placed into this course by examination.

## SPN 131. Intnsve Fundmntl Spn. 2 Hours

INTENSIVE FUNDAMENTAL SPANISH - Intensive development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Admission restricted to those who have previous experience with the language and place into this course by examination. Credit granted for only ONE of the following: SPN 101 or SPN 131.

## SPN 141. Basic Profncy Spn II. 4 Hours

BASIC PROFICIENCY IN SPANISH II - Further development of fundamental communication and intercultural skills in reading, listening, writing, and speaking through extensive practice in language use. Prerequisite(s): (SPN 101 or SPN 131) or placement by examination.

## SPN 201. Intermed Spanish I. 3 Hours

INTERMEDIATE SPANISH I - Intensive development of the basic principles of Spanish through writing and conversation, stressing fluency. Language laboratory required. Successful completion of this course includes the demonstration of the proficiency level required by the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite(s): SPN 141.

## SPN 202. Intermed Spanish II. 3 Hours

INTERMEDIATE SPANISH II - Intensive development of the basic principles of Spanish through writing and conversation, stressing fluency. Language laboratory required. Prerequisite(s): SPN 201.

## SPN 270. Study Abroad. 1-6 Hours

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(s): SPN 141 or equivalent.

## SPN 311. Spn Conversation I. 3 Hours

SPANISH CONVERSATION I - Development of fluency in the vocabulary and idioms of the spoken language through discussion of topics related to contemporary life in the Hispanic world. Prerequisite(s): SPN 202.

## SPN 312. Spn Conversation II. 3 Hours

SPANISH CONVERSATION 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. Prerequisite(s): SPN 311.

## SPN 321. Spn Composition I. 3 Hours

SPANISH COMPOSITION I - 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. Prerequisite(s): SPN 311 or SPN 312.

## SPN 322. Spn Composition II. 3 Hours

SPANISH COMPOSITION 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. Prerequisite(s): SPN 321.

## SPN 325. Commercial Spanish. 3 Hours

COMMERCIAL SPANISH - Introduction to commercial correspondence as a basis for developing skills in writing Spanish business letters and other correspondence. Prerequisite(s): SPN 311 or SPN 312.

## SPN 341. Spanish Cult\&Civ. 3 Hours

SPANISH CULTURE AND CIVILIZATION - Readings and discussions on the historical, social, political, and cultural phenomena of Spain. Conducted in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 342. Ibero-Amer Cult \& Civ. 3 Hours

IBERO-AMERICAN CULTURE AND CIVILIZATION - Readings and discussions on the historical, social, political, and cultural phenomena of Ibero-America. Conducted in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 350. Hispnic Lit In Trans. 3 Hours

HISPANIC LITERATURE IN TRANSLATION - Course to acquaint students with major Spanish and Spanish-American writers and literary movements. Conducted in English. Repeatable when subtitle and content change.

## SPN 361. Survy-Spanish Lit I. 3 Hours

SURVEY OF SPANISH LITERATURE I - 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 twentieth century. Lectures, discussions, and assignments in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 362. Survy-Spanish Lit II. 3 Hours

SURVEY OF SPANISH LITERATURE 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 twentieth century. Lectures, discussions, and assignments in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 363. Surv Spn Am Lit I. 3 Hours

SURVEY OF SPANISH-AMERICAN LITERATURE I - 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. Conducted in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 364. Surv Spn Am Lit II. 3 Hours

SURVEY OF SPANISH-AMERICAN LITERATURE II - Readings and analysis of the works of major Spanish-American authors and discussion of the principal literary trends in Spanish America from Modernism through the present day. Conducted in Spanish. Prerequisite(s): SPN 311 or SPN 312.

## SPN 370. Study Abroad. 1-6 Hours

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(s): SPN 202.

## SPN 380. Spn\&lbero-Amr Cinema. 3 Hours

SPANISH AND IBERO-AMERICAN CINEMA - Introduction to cinematography and culture of Spanish and lbero-American countries, emphasizing themes related to human rights (Socioeconomic, class, sexuality, gender, ethnicity), as well as critical and theoretical perspectives on films from these regions. Conducted in English. Prerequisite(s): ENG 102 or equivalent.

## SPN 440. SPN Socilinguistics. 3 Hours

SPANISH SOCIOLINGUISTICS - Analysis of the interrelations between linguistic practices and ideas in the Spanish-speaking world and the social contexts in which they develop. Topics examined include language contact, minority languages, and human rights; language policy and education planning; socially conditioned variation according to gender, class, and ethnicity; and linguistic ideologies and identities in Spain and Latin America. Conducted in Spanish. Prerequisite(s): SPN 321 or permission of department chairperson.

## SPN 450. Spanish Literature. 3 Hours

TOPICS IN SPANISH LITERATURE - Lectures and discussions concentrating on specialized genres, periods, or authors of Peninsular literature prior to the twentieth century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite(s): SPN 311 or SPN 312.

## SPN 451. Spn-Amer Literature. 3 Hours

TOPICS IN SPANISH-AMERICAN LITERATURE - Lectures and discussions concentrating on specialized genres, periods, or authors of Spanish-American literature prior to the twentieth century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite(s): SPN 311 or SPN 312.

## SPN 469. Spanish Linguistics. 3 Hours

SPANISH LINGUISTICS - Synchronic analysis of modern Spanish language, including a contrast of the Spanish sound system, morphology, and syntax with English structures; the historical derivation of Spanish, the modern Spanish dialects (Spain and Latin America), and approaches to teaching Spanish to English speakers. Conducted in Spanish. Prerequisite(s): LNG 468; (SPN 311 or SPN 312).

## SPN 471. TP:Spn Lit-20th Cent. 3 Hours

TOPICS IN SPANISH LITERATURE OF THE TWENTIETH CENTURY Lectures and discussions concentrating on specialized periods, genres, or authors of twentieth-century Peninsular literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite(s): SPN 311 or SPN 312.

## SPN 472. Spn Lit-20th Cent II. 3 Hours

TOPICS IN SPANISH-AMERICAN LITERATURE OF THE TWENTIETH CENTURY - Lectures and discussions concentrating on specialized periods, genres or authors of twentieth-century Spanish-American literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite(s): SPN 311 or SPN 312.

## SPN 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consulation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## SPN 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## SPN 480. Spn\&lbero-Amr Cinema. 3 Hours

SPANISH AND IBERO-AMERICAN CINEMA - Introduction to cinematography and culture of Spanish and Ibero-American countries, emphasizing themes related to human rights (socioeconomic, class, sexuality, gender, ethnicity), as well as critical and theoretical perspectives on films from these regions. Conducted in Spanish. Prerequisite(s): SPN 312 or equivalent; SPN 342 recommended.

## SPN 491. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisite(s): SPN 202; permission of department chairperson.

## SPN 497. Service Learning. 1-3 Hours

SERVICE LEARNING EXPERIENCE - Supervised service experience or project which requires the use of Spanish. Repeatable up to a total of three semester hours. Prerequisite(s): SPN 311 or equivalent.

## Marianist Social Transformation

The minor in Marianist social transformation offers an interdisciplinary approach to Catholic, Marianist, and Christian studies. The program allows the student to utilize the rich resources in service, teaching, and research at the University of Dayton in order to explore and investigate those topics and issues that lie at the heart of the University. Open to all, participants will benefit from the two-hundred year Marianist experiment in the professions and higher education. Through its courses and activities, the minor prepares distinctive graduates to carry out social transformation based upon an understanding of Catholic and Christian contributions to the arts, sciences, and the professions.

## Marianist Studies Committee

Maura S. Donahue (Religious Studies), Coordinator Cadegan (History), Ensalaco (Political Science), Fitz (Ferree Professor in Social Justice), Inglis (Philosophy), K. Johnson (Religious Studies), McGrath (Religious Studies), Portier (Spearin Chair), Trollinger (History), Zukowski (Institute for Pastoral Initiatives)

## Minor in Marianist Social Transformation (MST)

| Marianist Social Transformation |  |
| :--- | :--- |
| MST 210 | Spkrs Cath Socl Trad |
| MST 310 | Read Signs Time |
| or MST 311 | Read Signs Time |
| or MST 312 | Readng-Signs-Times |
| Select one course from: |  |
| ASI 358 | Chrstny,Ctzshp\&Socty |
| HST 372 | Hst-Rel in US |
| PHL 327 | Philosophy of Peace |
| PHL 356 | Christian Philosophy |
| REL 363 | Faith \& Justice |

Select two courses from two different disciplines: 6
ASI $357 \quad$ Vocation \& the Arts
ASI 371 Prf Eth Glgl Cm-Bus
ASI 372 Prf Eth Glgl Cm-Edu
ASI 373 Prf Eth Glgl Cm-Egr
ASI 374 Prf Eth Glgl Cm-Phl
ASI 375 Prf Eth Gigl Cm-Rel
EGR 330 Engr Dsgn \& Appr Techq
ENG 323 Lit-Christn Tradtn
ENG 384 Chrstnty\&Mod Poetry
HST 305 Medieval Europe
HST 307 Renaissance\&Reformtn
HST 311 Old Regime Europe
HST 313 Europe 1815-1914
HST 358 Soc\&Cult Hst-Lat Am
MUS 301 Mus Hist \& Lit I
MUS 305 Africn Amer Sac Mus
MUS 350 Sacred Music Hst
MUS 452 Contemp Litgcl Mus Rep
PHL 307 Philosophy and Women
PHL 311 Phl of Religion
PHL 312 Ethics
PHL 313 Business Ethics
PHL 315 Medical Ethics
PHL 316 Engineering Ethics
PHL 319 Information Ethics
PHL 351 Medievel Philosophy
PHL 360 Existentialism
POL 333 Pol of Human Rghts
POL 426 Ldrshp-Communities
PSY 451 PSY of Religion
REL 323 Hst-Christianty I
REL 324 Hst-Christianty II
REL 358 Liberation Theology
REL 367 Chr Ethics\&Hlth Care
REL 368 Chr Ethics\&Bus World
REL 369 Chrstn Ethics \& Engr
REL 471 Women and Religion
REL 474 Women-Global Church

| SOC 334 | Religion \& Society |  |
| :--- | :--- | :--- |
| SOC 339 | Social Inequality |  |
| SOC 426 | Ldrshp-Communities |  |
| VAH 450 | It Renaissance Art |  |
| VAH 460 | Baroque Art | 13 |
| Total Hours |  | 13 |

## Courses

## MST 210. Spkrs Cath Socl Trad. 1 Hour

SPEAKERS ON CATHOLIC SOCIAL TRADITION - Introduction to contemporary Marianist, Catholic, and Christian social issues as reflected in presentations made on campus by significant outside speakers. Study and discussion of texts in order to meet and evaluate speakers.

## MST 310. Read Signs Time. 3 Hours

READING THE SIGNS OF THE TIMES - An integrated interdisciplinary exploration of local needs in light of Catholic social tradition and Marianist educational philosophy. In the process of this integrated analysis, the Historical Study domain will be emphasized. This course is crosslisted with MST 311 and MST 312 and is the capstone for the minor. Prerequisite(s): MST 210; three courses in minor.

## MST 311. Read Signs Time. 3 Hours

READING THE SIGNS OF THE TIMES - An integrated interdisciplinary exploration of local needs in light of Catholic social tradition and Marianist educational philosophy. In the process of this integrated analysis, the domain of Philosophy will be emphasized. This course is cross-listed with MST 310 and MST 312 and is the capstone for the minor. Prerequisite(s): MST 210; three courses in minor.

## MST 312. Readng-Signs-Times. 3 Hours

READING THE SIGNS OF THE TIMES - An integrated interdisciplinary exploration of local needs in light of Catholic social tradition and Marianist educational philosophy. In the process of this integrated analysis, the domain of Religious Studies will be emphasized. This course is crosslisted with MST 310 and MST 311 and is the capstone for the minor. Prerequisite(s): MST 210; three courses in minor.

## Mathematics

Majors:

- Bachelor of Arts, Mathematics
- Bachelor of Science, Applied Mathematical Economics
- Bachelor of Science, Mathematics


## Minors:

- Actuarial Science
- Mathematics

The B.A. program in mathematics provides for a breadth of mathematical study within the context of a liberal arts degree. It may be chosen as a preparation for a professional career in business, education, law or social science. It affords the student a significant distribution of courses in the humanities and social sciences so that he or she can develop a concentration in a field other than mathematics. The student's career goals will generally suggest desirable upper level mathematics electives. For example, prospective secondary mathematics teachers should
participate in the licensure program and elect courses such as MTH 370, MTH 395, and MTH 466. Students with an interest in business, law, or social science should complete the probability and statistics sequence MTH 411-MTH 412.

The B.S. program in mathematics provides a foundation for students who wish to pursue graduate studies in any area of the mathematical sciences, to enter the actuarial profession, or to enter careers where mathematics is used in an engineering or science setting. A preparation for graduate programs in a mathematical science should include electives such as MTH 342, MTH 404and MTH 471. Those planning on pursuing an actuarial career should take the actuarial science minor described below. To prepare for using mathematics in an applied context, some useful elective courses are MTH 403, MTH 404, and the MTH 411-MTH 412 sequence. All students pursuing a bachelor of science in mathematics are required to complete a minor in another subject.
The basic courses are offered every term:

| MTH 168 | Anly Geom \& Calc I | 4 |
| :--- | :--- | :--- |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| MTH 308 | Fndtn \& Discrete Mth | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |

Most majors will take MTH 218 and MTH 308 in the same term.
The required core courses are offered at least once a year:

| MTH 330 | Intermed Analysis | 3 |
| :--- | :--- | :--- |
| MTH 361 | Intro-Abstrct Algbra | 3 |
| MTH 411 | Probablty \& Stat I | 3 |
| MTH 430 | Real Analysis | 3 |

However, most of the other upper-level electives for the major are offered only once every two years; thus careful planning for a student's upper-level electives should be done in consultation with the advisor. In addition, the symbolic logic course, PHL 302, is a recommended general education course for all mathematics majors.
The B.S. program in applied mathematical economics provides a foundation in economics, mathematics and statistics needed for graduate study in economics or applied statistics, or for research and technical careers in business or government service. This degree is offered jointly by the Department of Mathematics and the Department of Economics and Finance in the School of Business Administration.
A minor in mathematics consists of twelve semester hours (300-400 level).

A minor in actuarial science is offered through the Department of Mathematics. This consists of courses in calculus, statistics, theory of interest, economics, and finance, and is designed to prepare the student to take the actuarial examinations in probability and financial mathematics.

## Faculty

Joe D. Mashburn, Chairperson
Distinguished Service Professor: Peterson
Professors Emeriti: Back, Friel, Gantner, Kauflin, McCloskey, Mushenheim, Rice, Schleppi, Shaughnessy, R. Steinlage, Strange Professors: Eloe, Higgins, Islam, Mashburn, Raffoul
Associate Professors: Abueida, Busch, Diestelkamp, Driskell, Gorton, Hovey, Krakowski, Liu
Assistant Professors: Keen, Qumsiyeh, Usman, Yengulalp

Lecturers: Harrison, Ober, Saintignon, Simon, L. Steinlage

## Bachelor of Arts with a major in Mathematics (mth)

| Mathematics |  |  |
| :--- | :--- | :--- |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 308 | Fndtn \& Discrete Mth | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |
| MTH 330 | Intermed Analysis | 3 |
| MTH 361 | Intro-Abstrct Algbra | 3 |
| MTH 411 | Probablty \& Stat I | 3 |
| Select three MTH electives (300/400 level) | 9 |  |

ASI $150 \quad$ Intr to the Univ Exp 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
L2 Proficiency (Proficiency in a language other than English) ..... 0-11
Literature ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 12
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124 at least
Bachelor of Science with a major in Applied Mathematical Economics (mte)

| Economics |  |  |
| :--- | :--- | :--- |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| ECO 346 | Intrmd MicroEco Anly | 3 |
| ECO 347 | Intrmd MacroEco Anly | 3 |
| ECO 441 | Econometrics | 3 |
| Select one ECO elective (300/400 level) | 3 |  |
| Mathematics |  | 4 |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 308 | Fndtn \& Discrete Mth | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |
| MTH 330 | Intermed Analysis | 3 |
| MTH 411 | Probablty \& Stat I | 3 |
| MTH 412 | Probablty \& Stat II | 3 |


| Breadth Requirements |  |  |
| :--- | :--- | :--- |
| ASI 150 | Intr to the Univ Exp | 1 |
| CPS 150 | Algorthm\&Progrm I | 4 |
| Select one natural sciences group from: | 8 |  |

    \& 151L and Concepts-Bio Lab I
    \& BIO 152 and Concepts of Bio II
    \& BIO 152L and Concepts-Bio Lab II
    | CHM 123 <br> \& 123L <br> \& CHM 124 <br> \& CHM 124L | General Chemistry and Gen Chemistry Lab and General Chemistry and Gen Chemistry Lab |  |
| :---: | :---: | :---: |
| GEO 115 <br> \& 115L <br> \& GEO 116 <br> \& GEO 116L | Physical Geology and Physical Geology Lab and Geolgcl Hst-Earth and Geolgcl Hst-Earth Lb |  |
| PHY 206 <br> \& PHY 207 <br> \& PHY 210L <br> \& PHY 211L | Gen Physics I Mech and Gen Phy II Ele \& Mag and Gen Physics Lab I and Gen Physics Lab II |  |
| CPS Elective (3 | 0/400 level) | 3 |
| Communication | Competencies | 3-9 |
| Humanities |  | 9 |
| Philosophy and | Religious Studies | 12 |
| Social and Behav | ioral Sciences | 6 |
| Total Hours - gen at least | eral education courses/academic electives to total | 120 |
| Bachelor Mathemati | f Science with a major in cs (mth) |  |

## Mathematics

MTH 168 Anly Geom \& Calc I 4
MTH $169 \quad 4$
MTH 218 Anly Geom \& Calc III ..... 4
MTH 219 Appl Diff Equations ..... 3
MTH 308 Fndtn \& Discrete Mth ..... 3
MTH 310 Lin Alg \& Matrices ..... 3
MTH 330 Intermed Analysis ..... 3
MTH 361 Intro-Abstrct Algbra ..... 3
MTH 430 Real Analysis ..... 3
Select four MTH electives (300/400 level) ${ }^{1}$ ..... 12
Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :--- |
| CPS 132 | Progrmmng-Engr \& Sci | 3 |
| or CPS 150 | Algorthm\&Progrm I |  |
| Select one natural sciences group from: |  | 8 |Select one natural sciences group from:8


| BIO 151 | Concepts of Bio I |
| :--- | :--- |
| \& 151L | and Concepts-Bio Lab I |
| \& BIO 152 | and Concepts of Bio II |
| \& BIO 152L | and Concepts-Bio Lab II |
| CHM 123 | General Chemistry |
| \& 123L | and Gen Chemistry Lab |
| \& CHM 124 | and General Chemistry |
| \& CHM 124L | and Gen Chemistry Lab |
| GEO 115 | Physical Geology |
| \& 115L | and Physical Geology Lab |
| \& GEO 116 | and Geolgcl Hst-Earth |
| \& GEO 116L | and Geolgcl Hst-Earth Lb |
| PHY 206 | Gen Physics I Mech |
| \& PHY 207 | and Gen Phy II Ele \& Mag |
| \& PHY 210L | and Gen Physics Lab I |
| \& PHY 211L | and Gen Physics Lab II |

Select two courses acceptable for science majors6

| Communication Competencies | $3-9$ |
| :--- | :---: |
| Humanities | 9 |
| Philosophy and Religious Studies | 12 |
| Social and Behavioral Sciences | 6 |
| Total Hours - general education courses/academic electives to total | 120 | at least

1 Departmental approval required.

## Minor in Actuarial Science (acs)

The Minor in Actuarial Science is designed to prepare students to pass the $P$ and $F M$ actuarial tests. It is also designed to supply students with VEE (Validation by Educational Experience) credit in economics, corporate finance, and applied statistics.

The minor contains seven courses in mathematics for a total of twentyfour semester hours. One of these is a course in the theory of interest and one is a seminar which prepares students to take the P test. Mathematics majors will take all but two of the mathematics requirements for the minor as part of their major requirements.

The minor also contains six courses in accounting, economics, and finance for a total of eighteen semester hours. Economics and finance majors will take all of these courses as part of their major requirements. They will be able to substitute two of the mathematics courses for those that they are required to take for their major.
A total of forty-six semester hours are required for the minor.

## Actuarial Science

| ACC 207 | Intro-Financial Acc | 3 |
| :--- | :--- | :--- |
| ECO 301 | Sem in Market Econ ${ }^{1,2}$ | 3 |
| ECO 347 | Intrmd MacroEco Anly ${ }^{1,2}$ | 3 |
| ECO 410 | Bus\&Eco Forecasting $^{3}$ | 3 |
| FIN 301 | Intro to Financial Mgt $^{4}$ | 3 |
| FIN 360 | Investments | 3 |
| FIN 470 | Fixed Inc Sec | 3 |
| FIN 480 | Optns\&Futures Mkts | 3 |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 229 | Theory of Interest | 3 |
| MTH 328 | Actuarial Prob Sem | 1 |
| MTH 411 | Probablty \& Stat I | 3 |
| MTH 412 | Probablty \& Stat II | 3 |
| Total Hours |  | 46 |

1 ECO 203, ECO 204 may be substituted for ECO 301, ECO 347.
2 ECO 301, ECO 347 or ECO 203, ECO 204 qualify for VEE Economics credit in Economics.
3 This course counts as VEE credit in Applied Statistics.
4 This course counts as VEE credit in Corporate Finance.

## Minor in Mathematics (mth)

| Mathematics |  |
| :--- | ---: |
| Select four MTH courses (300/400 level) | 12 |
| Total Hours | 12 |

## Courses

MTH 102. Fundamentals of Math. 3 Hours
FUNDAMENTALS OF MATH - Sets, functions and graphs, exponents, polynomials and algebraic equations, systems of equations.
Prerequisite(s): One year of high school algebra.

## MTH 114. Contemporary Math. 3 Hours

CONTEMPORARY MATH - Study of contemporary mathematical topics and their applications. Topics may include management science, statistics, social choice, size and shape, and computer mathematics. Prerequisite(s): Two years of high school algebra.

## MTH 116. Precalculus Math. 4 Hours

PRECALCULUS MATH - Review of topics from algebra and trigonometry including polynomials, functions and graphs, exponential and logarithmic functions, trigonometric functions and identities. Prerequisite(s): Two years of high school algebra.

## MTH 128. Finite Math. 3 Hours

FINITE MATHEMATICS - Topics from mathematics used in business including systems of equations, inequalities, matrix algebra, linear programming and logarithms; applications to compound interest, annuities and other finance problems. Prerequisite(s): MTH 102 or sufficient college preparatory mathematics.

## MTH 129. Calc for Business. 3 Hours

CALCULUS FOR BUSINESS - Topics from differential and integral calculus used in business; applications to optimizing financial functions, marginal functions in economics, and consumer or producer surplus. Prerequisite(s): MTH 128 or sufficient college preparatory mathematics.

## MTH 137. Calc I with Review. 4 Hours

CALCULUS I WITH REVIEW - Introduction to the differential and integral calculus with an extensive review of algebra and trigonometry; differentiation and integration of algebraic and transcendental functions with applications. Prerequisite(s): Two years of high school algebra.

## MTH 138. Calc I with Review. 4 Hours

CALCULUS I WITH REVIEW - Introduction to the differential and integral calculus with an extensive review of algebra and trigonometry; differentiation and integration of algebraic and transcendental functions with applications. Prerequisite(s): MTH 137.

## MTH 148. Introductory Calc I. 3 Hours

INTRODUCTORY CALCULUS I - Introduction to the differential and integral calculus; differentiation and integration of algebraic and transcendental functions with applications to the life and social sciences. Prerequisite(s): MTH 116 or equivalent.

## MTH 149. Introductory Calc II. 3 Hours

INTRODUCTORY CALCULUS II - Continuation of MTH 148.
Multivariable calculus, matrices, difference equations, probability, discrete and continuous random variables, and differential equations with applications to the life and social sciences. Prerequisite(s): MTH 138 or MTH 148.

## MTH 168. Anly Geom \& Calc I. 4 Hours

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(s): MTH 116 or equivalent.

## MTH 169. Anly Geom \& Calc II. 4 Hours

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(s): MTH 138 or MTH 168.

## MTH 204. Math Concepts I. 3 Hours

MATHEMATICAL CONCEPTS I - First course of a two-semester sequence designed for pre-service teachers. Concepts necessary for an understanding of the structure of arithmetic and its algorithms, number patterns, sets, problem solving, percent, relation and proportion, use of calculators. Prerequisite(s): One year of high school algebra; one year of high school geometry.

## MTH 205. Math Concepts II. 3 Hours

MATHEMATICAL CONCEPTS II - Continuation of MTH 204. Topics include probability, representing and interpreting data, the metric system, elementary geometry, geometric patterns, coordinate geometry, algebra and geometry, transformations, computer literacy. Prerequisite(s): MTH 204.

## MTH 207. Intro to Statistics. 3 Hours

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(s): Two years of high school algebra.

## MTH 214. Math Concepts for MS. 3 Hours

MATHEMATICAL CONCEPTS FOR MIDDLE SCHOOL TEACHERS

- Concepts necessary for an understanding of the arithmetic taught in both elementary and middle grades. Includes a study of the structure of arithmetic and its algorithms; problem solving; reasoning and proof; proportional reasoning; use of computers and calculators to solve problems. Prerequisite(s): Two years of high school algebra.


## MTH 215. Alg,Funcs\&Graphs. 3 Hours

ALGEBRA, FUNCTIONS AND GRAPHS - Development of the algebra of various families of functions including polynomial, exponential, logarithmic, and trigonometric functions; factoring and roots; interpretation of graphs; use of calculators and data collection devices to solve problems. Prerequisite(s): MTH 214.

## MTH 216. Calc Concepts\&Apps. 3 Hours

CALCULUS CONCEPTS AND APPLICATIONS - Develop conceptual understanding of basic calculus concepts; introduction to the notion of limit; rates of change; slopes and area computations; use of calculators and data collection devices to make predictions, estimations, and solve problems. Prerequisite(s): MTH 215.

## MTH 218. Anly Geom \& Calc III. 4 Hours

ANALYTIC GEOMETRY AND CALCULUS III - Continuation of MTH 169. Solid analytic geometry, vectors and vector functions, multivariable calculus, partial derivatives, multiple integrals. Prerequisite(s): MTH 169.

## MTH 219. Appl Diff Equations. 3 Hours

APPLIED DIFFERENTIAL EQUATIONS - First order equations, linear equations with constant coefficients, systems of equations, the Laplace transform, numerical methods, applications. Prerequisite(s): MTH 218.

## MTH 229. Theory of Interest. 3 Hours

THEORY OF INTEREST - Rigorous, calculus-based treatment of the Theory of Interest. Topics covered include interest, compounding, discounting, annuities, sinking funds, amortization, bonds, yield rates, and applications of these ideas and processes to problems in finance. Prerequisite(s): MTH 169.

## MTH 250. Adv Tech Mathematics. 3 Hours

ADVANCED TECHNICAL MATHEMATICS - Appropriate analytical techniques for students of engineering technology; topics include integration by parts, multivariable calculus, complex numbers, matrices and system of linear equations, and first and second order differential equations. Applications are appropriate for the engineering technology programs (circuits, vibrations, and heat transfer). Prerequisite(s): MTH 138 or MTH 168.

## MTH 266. Disc\&Fin Mth in MS. 3 Hours

DISCRETE AND FINITE MATHEMATICS FOR MIDDLE SCHOOL TEACHERS - Topics in finite and discrete mathematics; linear programming; applications in finance; graph theory; mathematics of social choice; logic; use of computers and calculators to model and solve problems. Prerequisite(s): MTH 214.

## MTH 270. Geom Concepts\&Apps. 3 Hours

GEOMETRY CONCEPTS AND APPLICATIONS - Introduction to the geometry of two- and three-dimensional space; patterns in geometry; measurement systems; transformations and similarity; coordinate geometry; the algebra of geometry; trigonometry; use of dynamic computer software to explore geometric concepts. Prerequisite(s): MTH 214.

## MTH 290. Topics-(Named Area). 1-3 Hours

TOPICS IN MATHEMATICS - Exploration of varying topics appropriate for the needs of the pre-service training of teachers of mathematics. May be repeated as topics change. Prerequisite(s): One mathematics course beyond MTH 102; permission of department chairperson and/or instructor.

## MTH 295. Hst Rts of Elem Math. 3 Hours

HISTORICAL ROOTS OF ELEMENTARY MATHEMATICS -
Fundamental historical development of modern arithmetic, algebra, geometry, and number systems from early Egyptian, Babylonian, and Greek sources. Students may not receive credit for both this course and MTH 395. Prerequisite(s): MTH 214.

## MTH 308. Fndtn \& Discrete Mth. 3 Hours

FOUNDATIONS AND DISCRETE MATHEMATICS - An introduction to proof using topics in foundational and discrete mathematics; propositional logic; number theory; sequences and recursion; set theory; relations; combinatorics; linear programming. Prerequisite(s): MTH 169.

## MTH 310. Lin Alg \& Matrices. 3 Hours

LINEAR ALGEBRA AND MATRICES - Fundamental concepts of vector spaces, determinants, linear transformations, matrices, inner product spaces, and eigen-vectors. Offered each term. Prerequisite(s): MTH 218, MTH 308. (May be taken as corequisites).

## MTH 328. Actuarial Prob Sem. 1 Hour

ACTUARIAL PROBABILITY SEMINAR - Problem solving seminar to develop and improve skills in applied probability. This seminar will focus on actuarial applications of probability theory. Prerequisite(s): MTH 411.

## MTH 329. Acturarial Fin Sem. 1 Hour

ACTURARIAL FINANCE SEMINAR - Problem solving seminar to develop and improve skills in applied mathematical finance. This seminar will focus on integrating the mathematical presentation of the Theory of Interest to the field of finance. Prerequisite(s): FIN 470; MTH 229.

## MTH 330. Intermed Analysis. 3 Hours

INTERMEDIATE ANALYSIS - Theoretical development of the calculus of a real-valued function of a real variable. Topics include the algebraic and topological properties of the real line, limits of sequences and functions, continuity, differentiability, and integration. Prerequisite(s): MTH 310.

## MTH 342. Set Theory. 3 Hours

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(s): MTH 218, MTH 308.

## MTH 343. Math-CPE\&ELE Engr. 3 Hours

MATHEMATICS FOR ELECTRICAL AND COMPUTER ENGINEERS -
Linear algebra and matrices, complex variables, mathematical transforms and their inter-relations. Focus on mathematical theories as well as applications and an extensive use of MATLAB. Prerequisite(s): MTH 219.

## MTH 361. Intro-Abstrct Algbra. 3 Hours

INTRODUCTION TO ABSTRACT ALGEBRA - Fundamental concepts of groups, rings, integral domains and fields. Prerequisite(s): MTH 218, MTH 308.

## MTH 367. Statistical Meth I. 3 Hours

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. Mathematics majors enroll in MTH 411 instead of MTH 367. Prerequisite(s): MTH 149 or MTH 169.

## MTH 368. Statistical Meth II. 3 Hours

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. Mathematics majors enroll in MTH 412 instead of 368. Prerequisite(s): MTH 367.

## MTH 370. Intro to Higher Geom. 3 Hours

INTRODUCTION TO HIGHER GEOMETRY - Projective, affine, and hyperbolic geometries using synthetic and/or analytic techniques. Prerequisite(s): MTH 218, MTH 308.

## MTH 376. Number Theory. 3 Hours

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(s): MTH 218, MTH 308.

## MTH 395. Develop-MathmtI Idea. 3 Hours

DEVELOPMENT OF MATHEMATICAL IDEAS - The evolution of mathematical ideas and techniques from ancient times to the present with emphasis on the Greek era. Famous people and famous problems. Chronological outline of mathematics in each of its branches along with applications. Prerequisite(s): MTH 218, MTH 308.

## MTH 403. Boundary Value Probs. 3 Hours

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(s): MTH 219, MTH 310.

## MTH 404. Complex Variables. 3 Hours

COMPLEX VARIABLES - Functions of a complex variable, conformal mapping, integration in the complex plane. Laurent series and residue theory. Prerequisite(s): MTH 219.

## MTH 411. Probablty \& Stat I. 3 Hours

PROBABILITY AND STATISTICS I - Mathematical probability, random variables, Bayes' Theorem, Chebyshev's Inequality, Binomial, Poisson, and Normal probability laws, moment generating functions, limit theorems, descriptive statistics, large sample statistical inference. MTH 308 is recommended as preparation for this course. Prerequisite(s): MTH 218.

## MTH 412. Probablty \& Stat II. 3 Hours

PROBABILITY AND STATISTICS II - Multivariate distributions, transformations of random variables, sampling distribution theory, estimation of parameters including maximum likelihood, confidence intervals, the Neyman-Pearson lemma, tests of hypotheses, likelihood ratio tests. Prerequisite(s): MTH 411.

## MTH 430. Real Analysis. 3 Hours

REAL ANALYSIS - Continuation of MTH 330. Topics include the theory of convergence of sequences and series of functions in the context of metric spaces, uniform continuity, uniform convergence, and integration. Prerequisite(s): MTH 330.

## MTH 435. Adv Multivar Calc. 3 Hours

ADVANCED MULTIVARIATE CALCULUS - Topics include directional derivatives, chain rule, Lagrange multipliers, Taylor's formula, the mean value theorem, inverse mapping theorem, implicit function theorem, integration, Fubini's theorem, change of variables, line integrals, Green's theorem and Stoke's theorem. Prerequisite(s): MTH 310.

## MTH 440. Intro Math Modeling. 3 Hours

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 thereof, dimensional analysis, scaling and approximations at various levels are discussed. Prerequisite(s): MTH 219, MTH 310.

## MTH 441. Mathematics Clinic. 1 Hour

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. Prerequisite(s): MTH 440; permission of department chairperson.

## MTH 445. Special Topics. 1-3 Hours

SPECIAL TOPICS IN MATHEMATICS - 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(s): Permission of department chairperson.

## MTH 458. Math Models in Fin. 3 Hours

MATHEMATICAL MODELS IN FINANCE - Mathematical models in finance which include discrete and continuous models for stock price, interest rate model, bond pricing model, and option pricing model. Quantitative methods are introduced and employed. The methods include Black-Scholes formula, Monte-Carlo simulation, and binomial tree. Markowitz's optimal portfolio selection method is introduced and employed. Prerequisite(s): MTH 310.

## MTH 465. Linear Algebra. 3 Hours

LINEAR ALGEBRA - Vector spaces, linear transformations and matrices, determinants, inner product spaces, invariant direct-sum decomposition and the Jordan canonical form. Prerequisite(s): MTH 310.

## MTH 466. Grph Thry\&Combntrics. 3 Hours

GRAPH THEORY AND COMBINATIORICS - Graphs as algebraic structures; Eulerian, Hamiltonian, complete, connected and planar graphs. Applications include scheduling and routing problems. Discussion of algorithms for optimal or near-optimal solutions. Combinatorial topics could include generating functions, recurrence relations, Polya's theorem and Ramsey Theory. Prerequisite(s): MTH 308 or MTH 310.

## MTH 467. Comb Design Theory. 3 Hours

COMBINATORIAL DESIGN THEORY - Topic include discussion of Latin squares, mutually orthogonal Latin squares, orthogonal and perpendicular arrays, Steiner triple systems, block designs, difference sets, and finite geometries. Prerequisite(s): MTH 308.

## MTH 471. Topology. 3 Hours

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(s): MTH 308.

## MTH 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## MTH 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## MTH 490. Readings. 1-3 Hours

READINGS IN MATHEMATICS - Individual study in specialized areas carried out under the supervision of a staff member. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## Military Science 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 collegeeducated 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 a baccalaureate degree the opportunity to become officers in the United States Army.
The four-year program is divided into a basic course ${ }^{1}$ (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, other than contracted ROTC scholarship 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 $\$ 450$ (juniors) and $\$ 500$ (seniors) a month during the school year. During the summer between the junior and senior years, cadets enroll in a thirty-two day Leadership Development Assessment Course (LDAC), which allows them to apply the leadership and technical training learned in the classroom. While at LDAC, students are paid half a second lieutenant's monthly salary or about $\$ 1100$.
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 a course in military history.

The minor in military science provides students with the opportunity to study the theory and practice of the military profession. The minor consists of twelve semester hours of upper-level courses.

Students desiring to minor in military science should notify their respective deans and the Department of Military Science.
The ROTC program is also available to students with three or two years remaining on campus, including graduate students. Special programs, such as ROTC summer Leader's Training Course (LTC), 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 four, three, and two-year periods and provide for full tuition and fees, $\$ 1200$ a year for books, and a tax-free subsistence allowance of $\$ 300$ a month for first year cadets, \$350 a month for sophomore cadets, $\$ 450$ a month during the junior year and \$500 a month in the senior year for up to ten months. Scholarships, which are highly competitive, are awarded to those who demonstrate outstanding scholarly, athletic and leadership ability.

| ${ }^{1}$ At Sinclair Community College: |  |  |
| :---: | :---: | :---: |
| MIL 122, MIL 123 |  |  |
| Complete UD requirements for: |  |  |
| MIL 101 | Leadership I |  |
| MIL 102 | Leadership II |  |
| MIL 222, MIL 223 |  |  |
| Complete UD requirements for: |  |  |
| MIL 201 | Map Readng \& Tactics |  |
| MIL 202 | Military Leadership |  |
| Faculty |  |  |
| Lt. Col. Daniel Redden, U.S. Army, Chairperson Professor: Redden <br> Assistant Professors: Kish, Loertscher, Womack Instructors: Isenbart, Siler |  |  |
| Minor in Military Science (mil) |  |  |
| Military Science, ROTC |  |  |
| MIL 301 | Ldng Sm Orgnzations I | 3 |
| MIL 302 | Ldng Sm Orgnztns II | 3 |
| MIL 401 | Leadrshp Mgmnt\&Staff | 3 |
| MIL 402 | Appld Ldrshp \& Mgmt | 3 |
| Total Hours |  | 12 |

## Courses

MIL 101. Leadership I. 1 Hour
LEADERSHIP I ROTC - programs and opportunities; rappelling, leadership, communications and management skills, and rifle marksmanship. Optional field trips, field exercises, physical training, leadership laboratory and social events.

## MIL 102. Leadership II. 1 Hour

LEADERSHIP II - Rifle marksmanship, fundamentals and principles of leadership, management techniques for individual, group behavior and leadership dimensions. Optional physical training, leadership laboratory, and social events.

## MIL 201. Map Readng \& Tactics. 2 Hours

MAP READING AND SMALL UNIT TACTICS - Study of basic map reading skills, small unit tactics, movement techniques, weapons marksmanship orientation, and survival skills. Participation in leadership laboratory and two field training exercises. Optional physical training and social events.

## MIL 202. Military Leadership. 2 Hours

MILITARY LEADERSHIP - Interactive study of the fundamentals of military leadership, ethical decision-making, effective counseling techniques, and conflict resolution. Study of the role and branches of the US Army and the role of the commissioned, warrant, and noncommissioned officer. Optional participation in leadership laboratories, field training exercises, physical fitness training, and social events.

## MIL 301. Ldng Sm Orgnzations I. 3 Hours

LEADING SMALL ORGANIZATIONS I - Study of the methodology, qualities, and the development of leaders through a series of practical opportunities to lead small groups, receive personal assessments, encouragement, and lead again in situations of increasing complexity. Physical training, leadership laboratory, historical field trip, social events, and field training exercises are mandatory.

## MIL 302. Ldng Sm Orgnztns II. 3 Hours

LEADING SMALL ORGANIZATIONS II - Study of emplacement of communications equipment and weapons system. Application of small unit tactics, land navigation-terrain association, operations orders and roles of various branches of the Army. Physical training, leadership laboratory, social events, and field training exercises are mandatory.

## MIL 401. Leadrshp Mgmnt\&Staff. 3 Hours

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.

## MIL 402. Appld Ldrshp \& Mgmt. 3 Hours

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.

## MIL 411. Lntd Wr/Lw Int Conft. 2 Hours

LIMITED WAR/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 limited war and low intensity conflicts. Historical examples of leadership in limited war/low intensity conflicts are identified and discussed. Incorporates the background and experience of resident instructors and presentations by visiting service representatives.

## MIL 412. U.S. Military Today. 2 Hours

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.

## MIL 477. Honors Thesis Project. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and departmental chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## MIL 478. Honors Thesis Project. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and departmental chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved MIL 477 and approval of University Honors Program.

## Music

Majors:

- Bachelor of Arts, Music - Jazz Studies Concentration
- Bachelor of Arts, Music - Music Studies Concentration
- Bachelor of Music, Music Composition
- Bachelor of Music, Music Education - Instrumental Concentration
- Bachelor of Music, Music Education - Vocal Concentration
- Bachelor of Music, Music Performance
- Bachelor of Music, Music Therapy


## Certificate:

- Church Music

Minor:

- Music
- Music Technology

Music is a unique form of expression and communication. A course of study provides for aesthetic understanding and an opportunity to translate musical concepts into valuable and practical skills. 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 American Music Therapy Association.

The Department of Music has numerous performing ensembles open to all students:

- The University Chorale
- Choral Union
- Opera Workshop
- Ebony Heritage Singers
- World Music Choir
- Hands in Harmony Signing Choir
- University Orchestra
- Symphonic Wind Ensemble
- Concert Band
- "Pride of Dayton" Marching Band
- Javanese Gamelan
- Athletic Pep Bands
- Jazz ensembles
- Early Music Ensemble
- chamber music groups

The Department of Music offers five degree programs as listed below. Those majoring in the Bachelor of Arts with a major in Music (MUS) may choose from the following concentration areas: Music Studies or Jazz Studies.

- Bachelor of Arts with a major in Music (MUS)
- Bachelor of Music with a major in Composition (MUC)
- Bachelor of Music with a major in Performance (MUP)
- Bachelor of Music with a major in Music Therapy (MUT)
- 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 two letters of recommendation from their high school music teachers and/or performance teachers and
2. Successfully complete the performance audition in person. Specific information regarding audition requirements and dates is available by calling the department office and visiting the department website (http://academic.udayton.edu/music).

The Department of Music offers a minor in music and a minor in music technology for non-music majors, and a church music certificate.
Transfer students pursuing a major in MUC, MUP, or MUT must complete at least twenty-four of the required semester hours in the Department of Music while in residence at the University of Dayton. Transfer students pursuing a major in MUE must complete at least twenty of the required semester hours in the Department of Music while in residence at the University of Dayton. Transfer students pursuing a music minor must complete at least twelve of the required semester hours in the Department of Music while in residence.

## MUS 390 Ensembles:

Brass Ensemble - Study of repertoire for small brass ensembles including brass quintet, horn ensemble, and others.
Audition required. 0.5 semester hours.
Celebration Vocal Transit - Students will study performance practices associated with American popular music forms
(including pop, soul, jazz, gospel, musical theatre) with particular attention paid to improvisation in the various
forms. Students will also learn microphone technique and basic use of PA systems. The semester culminates in
a performance of solos, duets, and small ensemble selections. 1 semester hour.
Choral Union - Mixed voice ensembles performing music from all style periods in regular concert appearances. Open to
all University students without audition. 1 semester hour. Classical Guitar Ensemble - 0.5 semester hours.
Ebony Heritage Singers - Ensemble specializing in the sacred music of African-Americans with particular emphasis on contemporary gospel music and improvisation. Open to the entire University community regardless of ethnic background or religious affiliation. No audition required. 1 semester hour. Hands in Harmony - A sign-singing ensemble. 0.5 semester hours. Indoor Marching Percussion Ensemble - Study of marching percussion instruments (snare, tenors, melodic bass drums, cymbals, electric bass, electronic keyboards, and "pit" percussion). Preparation of a full indoor show, with music, drill, choreography, and staging. Experience necessary for snare drum, tenor sections. Appearances
at area exhibitions and competitions. Winter semester only. Audition required. 0.5 semester hours.
Jazz Combo - Small ensemble study of works by major American jazz composers. Emphasis on group and individual improvisation. Audition required. 0.5 semester hours.
Jazz Guitar Ensemble - 0.5 semester hours.
Liturgical Music Lab Ensemble - Ensemble specializes in the performance of church music repertoire including
contemporary Christian, gospel music, worship and praise, and traditional sacred choral literature. No audition
required. 1 semester hour.
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.
1 semester hour.
Opera Workshop - Performance techniques for the singer-actor through the study and performance of music from operatic
literature. Improvisational exercises are incorporated. Audition required. 0.5 semester hours.

Pep Band - Membership includes winds and percussion only. Performs at all home men's basketball games and some
away games. Open to all University students. Preference given to marching band members. Audition required.
1 semester hour.
Percussion Ensemble - Study and performance of concert repertoire for all combinations of percussion instruments, from
duets to full percussion ensembles, with occasional piano or string bass accompaniment. Open to all majors and
non-majors; experience with preferred but not required (on one or more of the following: snare drum, tympani,
drum set, keyboard percussion, world and ethnic percussion, small accessory instruments.) Audition required.
0.5 semester hours.

Piano Ensemble - Audition required. 0.5 semester hours.
String Ensemble - Audition required. 0.5 semester hours.
UD Gamelan Ensemble - Members will experience collective music making and the study of cultural performance
practices in rehearsal and performance settings. Open to all University and community members. No audition required.
0.5 semester hours.

University Concert Band - Meeting winter semester only, University Concert Band is a non-auditioned ensemble and performs two on-campus concerts. A wide variety of repertoire is performed, including marches, show tunes, concert
band standards, contemporary band literature, and solo accompaniments. 1 semester hour.
Woodwind Ensemble - A combination of woodwind instruments to include flute choir, clarinet choir, saxophone choir, woodwind quintet, and others. 0.5 semester hours.
World Music Choir - Members explore, learn, and perform a diverse repertoire of world choral music in its cultural and historical context, often with cultural 'informants,' either in person or through the use of technology. Performances include accompanying percussion instruments and movement. Open to all University and community members.
No audition required. 0.5 semester hours.

## Faculty

Sharon Davis Gratto, Chairperson
Professors Emeriti: Benedum, Sandness
Professors: Chenoweth, Cox, Gratto, Hartley, Magnuson, Snyder, Street
Associate Professors: Gardstrom, Morris, Reynolds
Assistant Professors: Dorf, Jones, MacLachlan, Rush
Lecturers: Hiller, Kizer
Artists-in-Residence: Benjamin, Daniel-Cox, Farris, Leslie, McCutcheon, Sievers

## Bachelor of Arts with a major in MusicJazz Studies Concentration (MUS)

The Bachelor of Arts (BA) with a concentration in Jazz Studies focuses on the musical and historical elements of jazz. Students will study:

- Jazz improvisation
- Jazz performance
- Jazz theory
- Jazz history
- Jazz composition and arranging.

Students also participate in both large and small jazz ensembles, which provide the opportunity to become skilled in the art of practice and performance of jazz. To take advantage of the diverse academic environment at the University of Dayton, students are encouraged to earn a minor or to complete a second major within another discipline.

| Music |  |  |
| :---: | :---: | :---: |
| MUS 200 | Recital Attendance (7 semesters) | 0 |
| MUS 241 | Keyboard Comp I | 0 |
| MUS 242 | Keyboard Comp II | 0 |
| MUS 250 | Second Year Review | 0 |
| MUS 480 | Capstone Project Sem | 1 |
| MUS 481 | Capstone Proj Pres | 1 |
| Ensembles |  | 6 |
| MUS 390 | Ensembles ${ }^{1}$ |  |
| MUS 494 | Dayton Jazz Ensemble |  |
| Music History and | Literature | 9 |
| MUS 301 | Mus Hist \& Lit I |  |
| or MUS 302 | Mus Hist \& Lit II |  |
| MUS 303 | Intro World Music |  |
| MUS 306 | History-Amer Jazz |  |
| Music Theory and | Aural Skills | 14 |
| MUS 111 | Theory of Music I |  |
| MUS 112 | Theory of Music II |  |
| MUS 113 | Aural Skills I |  |


| MUS 114 | Aural Skills II |
| :--- | :--- |
| MUS 211 | Theory of Music III |
| MUS 212 | Theory of Music IV |
| MUS 218 | Jazz Pop Theory |


| Performance studies, including functional keyboard skills | 14 |
| :--- | :--- |
| MUS 296 | Func Keybd Skls I |
| MUS 297 | Func Keybd Skls II |
| MUS 391 | Jazz Improv I |
| MUS 392 | Jazz Improv II |
| MUS 396 | Jazz Kybd Harmony I |
| MUS 397 | Jazz Kybd Harmony I |
| MUS 399 | Performance Studies |
| or MUS 499 | Performance |


| Liberal Studies Curriculum |  |  |
| :--- | :--- | :--- |
| ASI 150 | Intr to the Univ Exp | 1 |
| MUS 301 | Mus Hist \& Lit I | 3 |

Communication Competencies 3-9
Creative and Performing Arts (including MUS or other arts) 3
History 3
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature (English or Second Language) 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Take two semester hours of a Jazz Combo small ensemble.

## Bachelor of Arts with a major in MusicMusic Studies Concentration (mus)

Music

| MUS 200 | Recital Attendance (7 semesters) | 0-1 |
| :---: | :---: | :---: |
| MUS 240 | Fund of Conducting | 2 |
| MUS 241 | Keyboard Comp I | 0 |
| MUS 242 | Keyboard Comp II | 0 |
| MUS 250 | Second Year Review | 0 |
| MUS 480 | Capstone Project Sem | 1 |
| MUS 481 | Capstone Proj Pres | 1 |
| Ensembles |  | 4 |
| MUS 390 | Ensembles ${ }^{1}$ |  |
| or MUS 491 | University Orchestra |  |
| or MUS 492 | Symphonic Wind Ens |  |
| or MUS 493 | University Chorale |  |
| Music History and | Literature | 9 |


| Music History and Literature | 9 |
| :--- | :--- |
| MUS 301 | Mus Hist \& Lit I |
| MUS 302 | Mus Hist \& Lit II |
| MUS 303 | Intro World Music |

Music Theory and Aural Skills
16
MUS 111 Theory of Music I
MUS 112 Theory of Music II
MUS 113 Aural Skills I

| MUS 114 | Aural Skills II |
| :--- | :--- |
| MUS 211 | Theory of Music III |
| MUS 212 | Theory of Music IV |
| MUS 213 | Aural Skills III |
| MUS 214 | Aural Skills IV |
| Performance studies, including functional keyboard skills | 12 |


| MUS 296 | Func Keybd Skls I |
| :--- | :--- |
| MUS 297 | Func Keybd Skls II |
| MUS 298 | Func Keybd Skls III |
| MUS 299 | Func Keybd Skls IV |
| MUS 399 | Performance Studies |
| or MUS 499 | Performance |

## Liberal Studies Curriculum

ASI $150 \quad$ Intr to the Univ Exp 1
MUS 301 Mus Hist \& Lit I 3
Communication Competencies 3-9
Creative and Performing Arts (including MUS or other arts) 3
History 3
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Choose from any MUS 390. See course descriptions.

## Bachelor of Music with a major in Music Composition (muc)

| Music |  |  |
| :--- | :--- | :---: |
| MUS 200 | Recital Attendance (7 semesters) | $0-1$ |
| MUS 202 | Prof Dev Workshops (7 semesters) | 0 |
| MUS 241 | Keyboard Comp I | 0 |
| MUS 242 | Keyboard Comp II | 0 |
| MUS 250 | Second Year Review | 0 |
| MUS 314 | Score Reading | 2 |
| MUS 450 | Degree Recital (2 required) | 0 |
| Composition ${ }^{1}$ |  | 12 |
| MUS 121 | Composition I |  |
| MUS 122 | Composition I |  |
| MUS 221 | Composition II |  |
| MUS 222 | Composition II |  |
| MUS 321 | Composition III |  |
| MUS 322 | Composition III |  |
| MUS 421 | Composition IV | 4 |
| MUS 422 | Composition IV | 8 |
| Conducting |  |  |
| MUS 240 | Fund of Conducting |  |
| MUS 345 | Choral Conducting |  |
| or MUS 346 | Instr Conducting |  |
| Ensembles |  |  |



[^0]2 May substitute MUS 390 with permission.
3 Functional Keyboard Skills or equivalent is required.

## Bachelor of Music with a major in Music Education-INSTRUMENTAL CONCENTRATION (mue)

| Music $^{1}$ |  |  |
| :--- | :--- | :---: |
| MUS 200 | Recital Attendance (7 semesters) | 0 |
| MUS 202 | Prof Dev Workshops | 0 |
| MUS 231 | Intro to Mus Ed | 2 |
| MUS 240 | Fund of Conducting | 0 |
| MUS 241 | Keyboard Comp I | 0 |
| MUS 242 | Keyboard Comp II | 0 |
| MUS 250 | Second Year Review | 2 |
| MUS 318 | Fund of Arranging | 3 |
| MUS 331 | Choral Mus Methods | 3 |
| MUS 332 | Instru Mus Methods | 3 |
| MUS 335 | Classroom Mus Mthds | 2 |
| MUS 340 | Mus Ed for Spec Needs | $1-2$ |
| MUS 399 | Performance Studies (7 semesters) ${ }^{2}$ | 0 |
| MUS 450 | Degree Recital | 7 |
| Ensembles |  |  |
| MUS 390 | Ensembles (2 semesters) |  |
| Select five semesters from: |  |  |
| MUS 491 | University Orchestra |  |
| or MUS 492 <br> or MUS 493 | Symphonic Wind Ens | University Chorale |

Functional Keyboard Skills 4
MUS 296 Func Keybd Skls I
MUS 297 Func Keybd Skls II
MUS 298 Func Keybd Skls III
MUS 299 Func Keybd Skls IV
Music History and Literature 9
MUS 301 Mus Hist \& Lit I
MUS 302 Mus Hist \& Lit II
MUS 303 Intro World Music
Music Theory and Aural Skills 16

| MUS 111 | Theory of Music I |
| :--- | :--- |
| MUS 112 | Theory of Music II |
| MUS 113 | Aural Skills I |
| MUS 114 | Aural Skills II |
| MUS 211 | Theory of Music III |
| MUS 212 | Theory of Music IV |
| MUS 213 | Aural Skills III |
| MUS 214 | Aural Skills IV |

Additional Requirements for Instrumental Concentration ${ }^{3}$
Ensembles

| MUS 390 | Ensembles (choral) |
| :--- | :--- |
| or MUS 491 | University Orchestra |
| Small Ensembles (4 semesters, 0.5 semester hours each) |  |
| Music Education |  |
| MUS 195 | Beg Guitar Class I |
| MUS 236 | Voice Lab |
| MUS 336 | Woodwind Pedagogy (2 semesters) |


| MUS 337 | Brass Pedagogy (2 semesters) |  |
| :---: | :---: | :---: |
| MUS 338 | Percussn Pedagogy |  |
| MUS 339 | String Pedagogy (2 semesters) |  |
| Select a minimum of 6 elective semester hours from: |  | 6 |
| MUS 233 | Eurhythmics |  |
| MUS 295 | Beg Guitar Class II |  |
| MUS 338 | Percussn Pedagogy |  |
| MUS 345 | Choral Conducting |  |
| MUS 346 | Instr Conducting |  |
| MUS 381 | Clin Educ Improv I |  |
| MUS 399 | Performance Studies (may be repeated) |  |
| MUS 408 | Dictn\&Lit-Singrs |  |
| MUS 430 | Jazz Pedagogy |  |
| MUS 431 | Marching Band Pedagy |  |
| Teacher Education |  | 25 |
| EDT 110 | Profession-Teachng |  |
| EDT 110L | Prfssn Tchng Lab |  |
| EDT 207 | Chld\&Adol In Eductn |  |
| EDT 207L | Chld \& Adlsct Ed Lab |  |
| EDT 305 | Phil\&Hist of Amer Ed |  |
| EDT 459 | Crt Rdg Wrtg Cnt Ar |  |
| EDT 479 | Stdt Tchng-Mus K-12 |  |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| Communication Competencies |  | 3-9 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 6 |
| Philosophy and Religious Studies |  | 9 |
| Social and Behavioral Sciences |  | 3 |
| Total Hours - general education courses/academic electives to total at least |  | 144 |
| 1 Students in the music education program are required to maintain a 2.5 cumulative grade point average, a 2.5 cumulative average in teacher education courses, and a 2.5 cumulative average in music courses. Students must earn a grade of C - or higher in the following core music education courses: MUS 331, 332 and 335. |  |  |
| 2 On principal instrument. |  |  |
| 3 Students will select one of two concentration areas (instrumental or vocal). Upon completion of the degree and Praxis 2 exam, candidates will receive a Resident Educator License (Four Year, Multi-age, P-12) from the State of Ohio to teach music from prekindergarten through senior high school. |  |  |
| Bachelor of Music with a major in Music Education-VOCAL CONCENTRATION (mue) |  |  |
| Music ${ }^{1}$ |  |  |
| MUS 200 | Recital Attendance (7 semesters) | 0 |
| MUS 202 | Prof Dev Workshops (7 semesters) | 0 |
| MUS 231 | Intro to Mus Ed | 2 |
| MUS 240 | Fund of Conducting | 2 |



| MUS 328 | Hst-Amer Musical |  |
| :---: | :---: | :---: |
| MUS 399 | Performance Studies (if not previously taken) |  |
| MUS 345 | Choral Conducting |  |
| MUS 346 | Instr Conducting |  |
| MUS 381 | Clin Educ Improv I |  |
| MUS 399 | Performance Studies (on secondary instrument, may be repeated) |  |
| MUS 408 | Dictn\&Lit-Singrs (if not previously taken) |  |
| MUS 430 | Jazz Pedagogy |  |
| MUS 431 | Marching Band Pedagy |  |
| Teacher Education |  | 25 |
| EDT 110 | Profession-Teachng |  |
| EDT 110L | Prfssn Tchng Lab |  |
| EDT 207 | Chld\&Adol In Eductn |  |
| EDT 207L | Chld \& Adlsct Ed Lab |  |
| EDT 305 | Phil\&Hist of Amer Ed |  |
| EDT 459 | Crt Rdg Wrtg Cnt Ar |  |
| EDT 479 | Stdt Tchng-Mus K-12 |  |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| Communication Competencies |  | 3-9 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 6 |
| Philosophy and Religious Studies |  | 9 |
| Social and Behavioral Sciences |  | 3 |
| Total Hours - general education courses/academic electives to total at least |  | 144 |

1 Students in the music education program are required to maintain a 2.5 cumulative grade point average, a 2.5 cumulative average in teacher education courses, and a 2.5 cumulative average in music courses. Students must earn a grade of C - or higher in the following core music education courses: MUS 331, 332 and 335.
2 On principal instrument.
3 Students will select one of two concentration areas (instrumental or vocal). Upon completion of the degree and Praxis 2 exam, candidates will receive a Resident Educator License (Four Year, Multi-age, $\mathrm{P}-12$ ) from the State of Ohio to teach music from prekindergarten through senior high school.

## Bachelor of Music with a major in Music Performance (mup)

| Music |  | $0-1$ |
| :--- | :--- | :---: |
| MUS 200 | Recital Attendance (7 semesters) | 0 |
| MUS 202 | Prof Dev Workshops (7 semesters) | 0 |
| MUS 241 | Keyboard Comp I | 0 |
| MUS 242 | Keyboard Comp II | 0 |
| MUS 250 | Second Year Review | 0 |
| MUS 450 | Degree Recital (2 required) | 4 |
| Conducting and Arranging |  |  |
| MUS 240 |  | Fund of Conducting |
| MUS 318 | Fund of Arranging |  |


| Ensembles |  | 8 |
| :---: | :---: | :---: |
| MUS 491 | University Orchestra |  |
| or MUS 492 | Symphonic Wind Ens |  |
| or MUS 493 | University Chorale |  |
| Music History and | L Literature | 9 |
| MUS 301 | Mus Hist \& Lit I |  |
| MUS 302 | Mus Hist \& Lit II |  |
| MUS 303 | Intro World Music |  |
| Music Theory and Aural Skills |  | 16 |
| MUS 111 | Theory of Music I |  |
| MUS 112 | Theory of Music II |  |
| MUS 113 | Aural Skills I |  |
| MUS 114 | Aural Skills II |  |
| MUS 211 | Theory of Music III |  |
| MUS 212 | Theory of Music IV |  |
| MUS 213 | Aural Skills III |  |
| MUS 214 | Aural Skills IV |  |
| Performance Studies ${ }^{1}$ |  | 36 |
| Major area of specialization (24-32 hours) |  |  |
| Minor area of specialization (4-12 hours) ${ }^{2}$ |  |  |
| MUS electives ${ }^{3}$ |  | 14 |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| Communication Competencies |  | 3-9 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 6 |
| Other non-music elective ${ }^{4}$ |  | 3 |
| Philosophy and Religious Studies |  | 12 |
| Social and Behavioral Sciences |  | 6 |
| Total Hours - general education courses/academic electives to total 1 at least |  |  |
| 1 Performance study in major area must lead to a half junior solo recital and a full senior solo recital. |  |  |
| 2 Must include MUS 296-MUS 299 or MUS 399. |  |  |
| Voice majors must take MUS 235 and MUS 408; piano majors must include MUS 405 and MUS 435; instrumental majors must take a pedagogy course in their area of specialization. Wind, string, brass and percussion majors should register for the appropriate pedagogy course in their area of performance (MUS 336-MUS 339). Majors are strongly urged to register for a Special Topics class with their performance instructor chosen to complement other performance studies. |  |  |
| 4 Voice majors must include two semesters of foreign language study. |  |  |
| Bachelor Therapy ( | of Music with a major in Music mut) |  |

Music

| MUS 200 | Recital Attendance (7 semesters) | 0 |
| :--- | :--- | :--- |
| MUS 202 | Prof Dev Workshops (7 semesters) | 0 |
| MUS 241 | Keyboard Comp I | 0 |


| MUS 242 | Keyboard Comp II | 0 |
| :---: | :---: | :---: |
| MUS 250 | Second Year Review | 0 |
| MUS 450 | Degree Recital | 0 |
| MUS 489 | Mus Therapy Intrnshp ${ }^{1}$ | 2 |
| Conducting and Arranging |  | 4 |
| MUS 240 | Fund of Conducting |  |
| MUS 318 | Fund of Arranging |  |
| Ensembles |  | 6 |
| MUS 491 or MUS 492 or MUS 493 | University Orchestra Symphonic Wind Ens University Chorale |  |
| Music History and Literature |  | 9 |
| MUS 301 | Mus Hist \& Lit I |  |
| MUS 302 | Mus Hist \& Lit II |  |
| MUS 303 | Intro World Music |  |
| Music Theory and Aural Skills |  | 16 |
| MUS 111 | Theory of Music I |  |
| MUS 112 | Theory of Music II |  |
| MUS 113 | Aural Skills I |  |
| MUS 114 | Aural Skills II |  |
| MUS 211 | Theory of Music III |  |
| MUS 212 | Theory of Music IV |  |
| MUS 213 | Aural Skills III |  |
| MUS 214 | Aural Skills IV |  |
| Music Therapy, including core courses and practica |  | 27 |
| MUS 233 | Eurhythmics |  |
| MUS 282 | Func Mus Thrpy Skls |  |
| MUS 285 | Intro Mus Therapy |  |
| MUS 286 | Mus Therapy Methods |  |
| MUS 287 | Practom Mus Thrpy I |  |
| MUS 288 | Practm Mus Thrpy II |  |
| MUS 289 | Practm Mus Thrpy III |  |
| MUS 290 | Mus Ther Treat Proc |  |
| MUS 381 | Clin Educ Improv I |  |
| MUS 382 | Clin Educ Improv II |  |
| MUS 385 | Music Therapy Prin |  |
| MUS 386 | Music \& Psychothrpy |  |
| MUS 387 | Practm Mus Thrpy IV |  |
| MUS 388 | Practm Mus Thrpy V |  |
| MUS 486 | Mus Therapy Research |  |
| Performance Studies ${ }^{2}$ |  | 10 |
| MUS 399 | Performance Studies |  |

Vocal and instrumental methods, including accompanying

| MUS 195 | Beg Guitar Class I |
| :--- | :--- |
| MUS 295 | Beg Guitar Class II |
| MUS 296 | Func Keybd Skls I |
| MUS 297 | Func Keybd Skls II |
| MUS 298 | Func Keybd Skls III |
| MUS 299 | Func Keybd Skls IV |
| MUS 338 | Percussn Pedagogy ${ }^{3}$ |

Select one semester hour from:

| MUS 237 | Brass Instrument Lab |
| :--- | :--- |
| MUS 238 | WW Instrument Lab |
| MUS 293 | Organ Class |

Music and dance electives

## Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :--- |
| HSS 305 | Human Anatomy | 3 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| PSY 101 | Introductory Psych | 3 |
| PSY 351 | Child Psychology | 3 |
| PSY 355 | Devlp Psychpath | 3 |
| PSY 363 | Abnormal Psychology | 3 |

Communication Competencies ..... 3-9
Mathematics (excluding MTH 102, 204, 205) ${ }^{4}$ ..... 3
Philosophy and Religious Studies ..... 12
Sciences ..... 3
Total Hours - general education courses/academic electives to total ..... 133
at least

1 This internship of 1,040 hours is taken after student completes all other course requirements. In order to be recommended for an internship, the student must earn a grade of C- or better in each music therapy course, 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.
2 Performance studies on the student's principal instrument leading to a minimum of a half-recital during the junior or senior year.
3 One semester of MUS 338 must be completed for a total of one semester hour.
4 MTH 207 recommended.

## Certificate in Church Music (MCh)

## Church Music

| MUS 110 | Fundamentals of Mus ${ }^{1}$ | 2 |
| :--- | :--- | :---: |
| MUS 350 | Sacred Music Hst | 3 |
| MUS 351 | Church Music Admin | 2 |
| MUS 390 | Ensembles | $0-1$ |
| MUS 399 | Performance Studies | $1-2$ |
| MUS 452 | Contemp Litgcl Mus Rep | 2 |
| MUS 459 | Church Music Internship | 2 |
| REL 446 | Chrstn Liturgy ${ }^{2}$ | 3 |
| Select one course from: | 2 |  |


| MUS 240 | Fund of Conducting |
| :--- | :--- |
| MUS 545 | Adv Choral Cond |

Select six semester hours from: 6

| MUS 318 | Fund of Arranging |  |
| :--- | :--- | :--- |
| MUS 461 | ST:Church Music |  |
| MUS 505 | Teach Music w/Tech I |  |
| MUS 506 | Teach Music w/Technology II |  |
| Total Hours |  | $23-25$ |

1 May substitute additional credits in performance studies or church music workshops for MUS 110.
2 Or two to three semester hours of a suitable religious studies course.

## Minor in Music (mus)

## Music

Select one track from: 22
Track A:

| MUS 115 | Music Theory Prac |
| :--- | :--- |
| MUS 116 | Music Theory Prac |
| MUS 217 | Listen \& Transcrip |
| or MUS 218 | Jazz Pop Theory |
| MUS 301 | Mus Hist \& Lit I |
| MUS 302 | Mus Hist \& Lit II |
| Select MUS electives (8 hours) ${ }^{1,2}$ |  |
| Track B:  <br> MUS 111 Theory of Music I <br> MUS 112 Theory of Music II <br> MUS 113 Aural Skills I <br> MUS 114 Aural Skills II <br> MUS 301 Mus Hist \& Lit I <br> MUS 302 Mus Hist \& Lit II <br> Select MUS electives (8 hours) ${ }^{1,2}$  <br> Total Hours  |  |

1 Must include six semester hours at the 300/400 level.
2 No more than two semester hours of ensemble (MUS 390, MUS 491, MUS 492, MUS 493) will count toward the minor.

## Minor in Music Technology (mus)

## Music Technology

Select one music theory option from: 8
Option A

| MUS 115 | Music Theory Prac |
| :--- | :--- |
| MUS 116 | Music Theory Prac |
| MUS 217 | Listen \& Transcrip |
| or MUS 218 | Jazz Pop Theory |

Option B
MUS 111 Theory of Music I
MUS 112 Theory of Music II
MUS 113 Aural Skills I
MUS 114 Aural Skills II

| Applied Studies ${ }^{1}$ | 6 |  |
| :---: | :--- | :--- |
| MUS 399 | Performance Studies |  |
| MUS 499 | Performance | 2 |
| Ensembles $^{2}$ |  |  |
| MUS 491 | University Orchestra |  |
| MUS 492 | Symphonic Wind Ens |  |
| MUS 493 | University Chorale |  |

Music History and Literature 3

| MUS 301 | Mus Hist \& Lit I |
| :--- | :--- |
| MUS 302 | Mus Hist \& Lit II |
| MUS 303 | Intro World Music |


| Music Technology |  | 5 |
| :---: | :--- | :--- |
| MUS 223 | Intro Music Tech |  |
| MUS 323 | Rec\&Digital Media |  |
| Total Hours |  | 24 |

1 Take a total of six semester hours from any combination of these courses.
2 Take a total of two semester hours from any combination of these courses.

## Courses

MUS 104. Mus Lit-Elem Classrm. 2 Hours
MUSIC LITERATURE FOR THE ELEMENTARY CLASSROOM - Study of music literature and its direct application to elementary classroom use.

## MUS 110. Fundamentals of Mus. 2 Hours

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.

## MUS 111. Theory of Music I. 2 Hours

THEORY OF MUSIC I - Basic vocabulary and grammar of music: fundamentals (intervals, scales, modes, keys, triads), and counterpoint studies. Assignments are done with computer notation programs, and portions of the course use web-based texts.

## MUS 112. Theory of Music II. 2 Hours

THEORY OF MUSIC II - Basic diatonic and chromatic harmonic vocabulary studies, emphasizing both writing and analysis skills. Assignments are done with computer notation programs, and portions of the course use web-based texts. Prerequisite(s): (MUS 111 with a grade of C - or better) or permission of instructor.

## MUS 113. Aural Skills I. 2 Hours

AURAL SKILLS I - The hearing of musical structure is developed through active listening to representative pieces from music literature. Emphasis on formal relations, musical development and historical styles. Introduction to solfege singing and music transcription.

## MUS 114. Aural Skills II. 2 Hours

AURAL SKILLS II - Further developing the ability to hear musical structure through transcription of intervals, melody, rhythm and harmonic patterns and short musical compositions of music in representative stylistic categories. Use of solfege singing to represent students' internalization of melodic structure. Prerequisite(s): (MUS 113 with a grade of C - or better) or permission of instructor.

## MUS 115. Music Theory Prac. 3 Hours

MUSIC IN THEORY AND PRACTICE - Music theory studies in an historical context, appropriate for non-music majors. Fundamentals of music vocabulary and music prior to 1600: origins of melody and counterpoint. Aural skills incorporated into daily classes. Open to all University students. Prerequisite(s): At least one year of instrument/ voice studies which required note-reading ability. Corequisite(s): Current performance studies or active participation in a music ensemble which requires note-reading skills.

## MUS 116. Music Theory Prac. 3 Hours

MUSIC IN THEORY AND PRACTICE - Continuation of MUS 115: music between 1600-1900, harmony and analysis. Aural skills incorporated into daily classes. Prerequisite(s): MUS 115. Corequisite(s): Current performance studies or active participation in a music ensemble which requires note-reading skills.

## MUS 121. Composition I. 1 Hour

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. Prerequisite(s): MUS 111 (may be taken as a corequisite).

## MUS 122. Composition I. 1 Hour

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. Prerequisite(s): MUS 112 (may be taken as a corequisite). Corequisite(s): MUS 121.

## MUS 191. Voice Class. 2 Hours

VOICE CLASS - Basic principles of good singing; development of the voice; vocal literature. Open to all students, especially non-music majors.

## MUS 195. Beg Guitar Class I. 1 Hour

BEGINNING GUITAR CLASS I - Introduction to playing the guitar with emphasis on chord playing and accompaniment, improvisation, and application of the guitar to music teaching.

## MUS 196. Group Piano I. 1 Hour

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. Fee.

## MUS 200. Recital Attendance. 0 Hours

RECITAL ATTENDANCE - All music majors are required to attend professional and student concerts and recitals, to develop critical listening experience and knowledge of repertoire.

## MUS 201. Music in Concert. 3 Hours

MUSIC IN CONCERT - 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.

## MUS 202. Prof Dev Workshops. 0 Hours

PROFESSIONAL DEVELOPMENT WORKSHOP - All Bachelor of Music majors are required to attend a weekly professional workshop in their degree area. Course format is didactic and/or experiential according to degree program needs. Course material includes a variety of professional, pedagogical, and technological topics. May be repeated.

## MUS 203. Sights \& Sounds-Music. 3 Hours

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.

MUS 205. Mus, Instrumnts \& Tech. 3 Hours
MUSIC, INSTRUMENTS, AND TECHNOLOGY - Survey of music literature, styles, and important composers, and the way the development of instruments has influenced changes in musical style. The course will also consider the ways technology has altered our approach and access to music making, listening, and dissemination in the twentieth century. Open to all University students.

## MUS 211. Theory of Music III. 2 Hours

THEORY OF MUSIC III - Advanced diatonic and chromatic harmonic vocabulary studies and Schenkerian analysis, emphasizing both writing and analysis skills. Assignments are done with computer notation programs, and portions of the course use web-based texts. Prerequisite(s): (MUS 112 with grade of C- or better) or permission of instructor.

## MUS 212. Theory of Music IV. 2 Hours

THEORY OF MUSIC IV - Music of the twentieth century, emphasizing both writing and analysis skills. Assignments are done with computer notation programs, and portions of the course use web-based texts. Prerequisite(s): (MUS 211 with a grade of C- or better) or permission of instructor.

## MUS 213. Aural Skills III. 2 Hours

AURAL SKILLS III - Explores more advanced musical hearing and transcription techniques through later harmonic, melodic and rhythmic styles. More advanced melodic, harmonic and rhythmic materials as well as the continuing use of solfege singing to represent students' internalization of melodic structure. Prerequisite(s): (MUS 114 with grade of C- or better) or permission of instructor.

## MUS 214. Aural Skills IV. 2 Hours

AURAL SKILLS IV - Late nineteenth, twentieth and twenty-first century musical structures of harmony, melody, rhythm and compositional development/form explored through listening, transcription and performance. Prerequisite(s): (MUS 213 with a grade of C- or better) or permission of instructor.

## MUS 217. Listen \& Transcrip. 2 Hours

LISTENING AND TRANSCRIPTION SKILLS - Skills in hearing and notating music of representative and diverse styles through use of digital recording, sequencing, and computer notation software. Prerequisite(s): (MUS 112, 114) or permission of instructor.

## MUS 218. Jazz Pop Theory. 2 Hours

POPULAR AND JAZZ THEORY - Skills in the composition and arranging of popular and jazz styles in music including harmonic progression, melodic forms and the structure of voices and instruments in arrangements. Emphasis on creative applications of technology on the facility of music production. Culminating project is an arrangement, produced and recorded by the student. Prerequisite(s): (MUS 111, 112) or (MUS 115, 116) or permission of instructor.

## MUS 221. Composition II. 1 Hour

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. Prerequisite(s): MUS 211 (may be taken as a corequisite).

MUS 222. Composition II. 1 Hour
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. Prerequisite(s): MUS 212, 221, (may be taken as corequisites).

## MUS 223. Intro Music Tech. 2 Hours

INTRODUCTION TO MUSIC TECHNOLOGY - Provides students with an introduction to the notation and recording of music with a computer. Students will learn to compile and print music, record digital instruments with MIDI, and record and mix music with portable digital audio workstations. Prerequisite(s): (MUS 111, 112) or (MUS 115, 116) or permission of instructor.

## MUS 231. Intro to Mus Ed. 2 Hours

INTRODUCTION TO MUSIC EDUCATION - An introduction to a wide variety of pedagogical and philosophical aspects of teaching the arts. Topics will include technology, national and state standards, history, and professional organizations. Prerequisite(s): EDT 110.

## MUS 232. Integrating the Arts. 2 Hours

INTEGRATING THE ARTS - Primarily for Teacher Education majors. Development of knowledge, skills, values, and attitudes in music for integration into a classroom setting in which other classroom subjects are taught. Prerequisite(s): EDT 110.

## MUS 233. Eurhythmics. 1 Hour

EURHYTHMICS - Exploration of time, space, and energy through individual and collaborative structured and creative movement for musicianship skill development.

## MUS 235. Voice Pedagogy. 1 Hour

VOICE PEDAGOGY - Techniques for teaching singing. Prerequisite(s): Voice major or permission of instructor.

## MUS 236. Voice Lab. 1 Hour

VOICE LABORATORY - Introduction to the performance and pedagogical techniques for voice. Prerequisite(s): Instrumental music major or permission of department chairperson.

## MUS 237. Brass Instrument Lab. 1 Hour

BRASS INSTRUMENT LABORATORY - Introduction to the performance and pedagogical techniques for the brass instrument family.

MUS 238. WW Instrument Lab. 1 Hour
WOODWIND INSTRUMENT LABORATORY - Introduction to the performance and pedagogical techniques for the woodwind instrument family. Fee.

## MUS 240. Fund of Conducting. 2 Hours

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.

MUS 241. Keyboard Comp I. 0 Hours
KEYBOARD COMPETENCY I - Successful mastery of keyboard competency skills required for the first year music major. Prerequisite(s): Permission of department chairperson.

## MUS 242. Keyboard Comp II. 0 Hours

KEYBOARD COMPETENCY II - Successful mastery of keyboard competency skills required for the second year music major. Prerequisite(s): MUS 241; permission of department chairperson.

## MUS 250. Second Year Review. 0 Hours

SECOND YEAR REVIEW - Required mid-point evaluation of all music majors typically completed in the second semester of the second year of study toward the degree. Students must earn a satisfactory grade (S) in this course in order to enroll in upper-level coursework in their respective degree programs. Prerequisite(s): Permission of department chairperson.

## MUS 280. Mus \& Mvmt Ind Disab. 1 Hour

MUSIC AND MOVEMENT FOR PERSONS WITH DISABILITIES -
Training in the use of music and movement for children with disabilities under the supervision of AIM (Adventures in Movement) for the Handicapped, Inc. Includes observations and practices in the field.

## MUS 282. Func Mus Thrpy Skls. 2 Hours

FUNCTIONAL MUSIC THERAPY SKILLS - Aids music therapy majors in the development of functional competencies on keyboard, guitar, and voice, as well as the ability to learn, memorize, and perform a broad repertoire of American popular song. Prerequisite(s): MUS 112, 114.

## MUS 285. Intro Mus Therapy. 2 Hours

INTRODUCTION TO MUSIC THERAPY - 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. Prerequisite(s): PSY 101.

## MUS 286. Mus Therapy Methods. 2 Hours

MUSIC THERAPY METHODS - Introduction to four methods of music therapy: re-creative, receptive, composition, and improvisation. Emphasis on assessment, planning, facilitation, and evaluation of music therapy experiences within each method. Prerequisite(s): MUS 285.

## MUS 287. Practem Mus Thrpy I. 1 Hour

PRACTICUM IN MUSIC THERAPY I - Supervised pre-internship field experiences with children and/or adults with special needs. One-hour weekly lab required. Prerequisite(s): MUS 282; permission of department chairperson.

## MUS 288. Practm Mus Thrpy II. 1 Hour

PRACTICUM IN MUSIC THERAPY II - Supervised pre-internship field experiences with children and/or adults with special needs. One-hour weekly lab required. Prerequisite(s): MUS 250, 287.

## MUS 289. Practm Mus Thrpy III. 1 Hour

PRACTICUM IN MUSIC THERAPY III - Supervised pre-internship field experiences with children and/or adults with special needs. One-hour weekly lab required. Prerequisite(s): MUS 288.

## MUS 290. Mus Ther Treat Proc. 1 Hour

MUSIC THERAPY TREATMENT PROCESSES - Addresses the development of established competencies in the areas of music therapy referral, assessment, treatment planning, evaluation, supervision, and documentation of these processes. Prerequisite(s): MUS 285.

## MUS 293. Organ Class. 1 Hour

ORGAN CLASS - Introduction to the organ, including basic performance techniques, registration, beginning literature, and hymn playing. Fee.

## MUS 294. Harpsichord Class. 1 Hour

HARPSICHORD CLASS - Beginning course in harpsichord performance, including basic technique, stylistic considerations, and simple maintenance and tuning of the instrument. Fee.

## MUS 295. Beg Guitar Class II. 1 Hour

BEGINNING GUITAR CLASS II - Note reading in first position; advanced chord work, introduction to chord solo playing, and improvisation. Prerequisite(s): MUS 195 or equivalent.

## MUS 296. Func Keybd Skls I. 1 Hour

FUNCTIONAL KEYBOARD SKILLS I - Instruction in development of basic performance technique, sight reading, accompanying, transposing, playing by ear, improvising, and score reading. Fee.

## MUS 297. Func Keybd Skls II. 1 Hour

FUNCTIONAL KEYBOARD SKILLS II - Further development of techniques introduced in MUS 296. Fee. Prerequisite(s): MUS 296.

## MUS 298. Func Keybd Skls III. 1 Hour

FUNCTIONAL KEYBOARD SKILLS III - Continuation of MUS 297 with emphasis on improvisation and harmonization techniques. Fee.

## MUS 299. Func Keybd Skls IV. 1 Hour

FUNCTIONAL KEYBOARD SKILLS IV - Continuation of MUS 298 with emphasis on advanced chord work and modulation techniques. Fee. Prerequisite(s): MUS 298.

## MUS 301. Mus Hist \& Lit I. 3 Hours

MUSIC HISTORY AND LITERATURE I - Survey of Western music history and literature from the Middle Ages to the present. Important composers, masterworks of music literature, compositional styles.

## MUS 302. Mus Hist \& Lit II. 3 Hours

MUSIC HISTORY AND LITERATURE II - Survey of Western music history and literature from the Middle Ages to the present. Important composers, masterworks of music literature, compositional styles.

## MUS 303. Intro World Music. 3 Hours

INTRODUCTION TO MUSIC OF THE WORLD - Survey of music from representative cultures around the world, and its role and function in society.

## MUS 304. Hst of Amer Music. 3 Hours

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.

## muS 305. Africn Amer Sac Mus. 3 Hours

AFRICAN-AMERICAN SACRED MUSIC - Historical survey of AfricanAmerican 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.

## MUS 306. History-Amer Jazz. 3 Hours

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.

MUS 307. Dev Amer Poplr Song. 3 Hours
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.

## MUS 308. Chamber Mus \& Symphy. 2 Hours

## MUS 309. Opera Hst \& Lit. 3 Hours

OPERA HISTORY AND LITERATURE - Survey of the development of the opera and its literature from its seventeenth-century beginnings to the present. Focus upon major works and composers. Open to all University students.

## MUS 310. Mozart's Operas. 3 Hours

MOZART'S OPERAS - An interdisciplinary survey of Mozart's operas - German and Italian, serious and comic. Class discussions will be supplemented by extensive listening and/or viewing of recorded performances and, when possible, attendance at live performances.

## MUS 311. 18th Cent Counterpt. 2 Hours

EIGHTEENTH-CENTURY COUNTERPOINT - Study of the contrapuntal technique of the eighteenth century, particularly in the instrumental works of J.S. Bach. Original compositions in forms of the invention and the fugue. Prerequisite(s): MUS 211, MUS 212.

## MUS 312. 16th Cen Countrpnt. 2 Hours

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.

## MUS 313. Adv Aural Skills. 2 Hours

ADVANCED AURAL SKILLS - Advanced training in dictation, solfege, and aural analysis. Prerequisite(s): MUS 215.

## MUS 314. Score Reading. 2 Hours

SCORE READING - Training in reading music at the piano from open score. Drill in transposition, improvisation, and reading of various clefs, leading to the realization of full vocal and orchestral scores.

## MUS 316. Fund of Orchestration. 2 Hours

FUNDAMENTALS OF ORCHESTRATION - Instrumentation studies of the four main orchestral families: woodwinds, brass, percussion, strings. Some work in combining families. Prerequisite(s): MUS 212.

## MUS 318. Fund of Arranging. 2 Hours

FUNDAMENTALS OF ARRANGING - Arranging studies for woodwinds, brass, percussion, strings, and choir. Individual examination of instruments; projects. Prerequisite(s): MUS 212.

## MUS 321. Composition III. 2 Hours

COMPOSITION III - Explorations of original composition, which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisite(s): MUS 214, 250.

## MUS 322. Composition III. 2 Hours

COMPOSITION III - Explorations of original composition, which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisite(s): MUS 250, 321.

## MUS 323. Rec\&Digital Media. 3 Hours

RECORDING ARTS AND DIGITAL MEDIA - Comprehensive overview of digital audio and digital visual media. Skills in recording, archiving, and presenting work. Prerequisite(s): MUS 223 or permission of instructor.

## MUS 325. Beethoven \& his Era. 3 Hours

BEETHOVEN AND HIS ERA - Survey of the music of Ludwig van Beethoven, including orchestral works and chamber music, opera, keyboard and sacred music; and a survey of the historical context in which Beethoven lived and worked - Europe and the Habsburg Empire of the late eighteenth and early nineteenth centuries, and especially Vienna, the Habsburg capital. Beethoven is the culmination of the High Classic style and also the first of a new generation of Romantic composers.

## MUS 327. Music in Film. 3 Hours

MUSIC IN FILM - Survey of the styles, aesthetics, and techniques of film music, emphasizing the interaction of music and visual image in film. Consideration of the changes in the evolution of both film and film music, and their relationship to culture and society.

## MUS 328. Hst-Amer Musical. 3 Hours

HISTORY OF THE AMERICAN MUSICAL - Survey of the history and literature of the American musical from its nineteenth century predecessors to the present day. The course will focus on major representative works, major composers, and other artistic innovators. Open to all University students.

## MUS 331. Choral Mus Methods. 3 Hours

CHORAL MUSIC METHODS - Pedagogical techniques for choral ensembles. Topics include the singing voice, the changing voice, organization, artistic development, literature, and rehearsal techniques. National standards are emphasized as they relate to specific objectives. Current related practices in technology are incorporated in specific assignments. Field experience required. Prerequisite(s): MUS 250.

## MUS 332. Instru Mus Methods. 3 Hours

INSTRUMENTAL MUSIC METHODS - Pedagogical techniques for band and orchestra. Topics include teaching and rehearsal techniques, organization, assessment, learning theories, philosophy, literature, and programming. National standards are emphasized as they relate to specific objectives. Current related practices in technology are incorporated in specific assignments. Field experience required. Prerequisite(s): MUS 250.

## MUS 335. Classroom Mus Mthds. 3 Hours

CLASSROOM MUSIC METHODS - Pedagogical techniques for classroom music in grades preK through 8. Topics include the pedagogical methods of Orff, Kodaly, Suzuki, and Dalcroze; lessonplan design, implementation, and assessment. Special emphasis on the exceptional learner. National Standards are emphasized as they relate to specific objectives. Current related practices in technology are incorporated in specific assignments. Field experience required. Prerequisite(s): MUS 250.

## MUS 336. Woodwind Pedagogy. 1 Hour

WOODWIND PEDAGOGY - Course in woodwind pedagogy offered in two semester-long sections: (1) pedagogical techniques for clarinet and flute; (2) pedagogical techniques for saxophone, oboe, and bassoon. Repeatable up to two semester hours. Fee.

## MUS 337. Brass Pedagogy. 1 Hour

BRASS PEDAGOGY - Course in brass pedagogy offered in two semester-long sections (1) pedagogical techniques for trumpet and horn; (2) pedagogical techniques for trombone, euphonium, and tuba. Repeatable up to two semester hours. Fee.

## MUS 338. Percussn Pedagogy. 0.5-1 Hours

PERCUSSION PEDAGOGY - Course in percussion pedagogy offered in two semester-long sections: (1) Pedagogical techniques for the percussion instruments; (2) performance study on snare drum, mallets and timpani; teaching techniques for accessory instruments; minor repairs: method book analysis. Repeatable up to one and a half semester hours. Fee.

## MUS 339. String Pedagogy. 1 Hour

STRING PEDAGOGY - Pedagogical techniques for the string instruments. Separate sections for upper strings and lower strings. Each section is a full-term course. Fee.

## MUS 340. Mus Ed for Spec Needs. 2 Hours

MUSIC EDUCATION FOR STUDENTS WITH SPECIAL NEEDS Introduction to issues affecting music education with students who have physical, cognitive, emotional, and sensory challenges that affect the learning process. Specific musical characteristics and needs of special learners will be presented along with methods and strategies for teaching. Information and guidelines regarding regulatory issues related to music education will be addressed. Field experience required. Prerequisite(s): MUS 231.

## MUS 345. Choral Conducting. 2 Hours

CHORAL CONDUCTING - Continuation of techniques introduced in MUS 240, dealing specifically with techniques for choral ensembles. Prerequisite(s): MUS 240.

## MUS 346. Instr Conducting. 2 Hours

INSTRUMENTAL CONDUCTING - Continuation of techniques introduced in MUS 240, dealing specifically with techniques for band and orchestra. Prerequisite(s): MUS 240.

## MUS 350. Sacred Music Hst. 3 Hours

SACRED MUSIC HISTORY - Survey of the development of Christian Music and its function in worship. The focus will be on historical styles, including both their impact on and their application within liturgical settings, as well as on the religious reflections engendered by specific works.

## muS 351. Church Music Admin. 2 Hours

CHURCH MUSIC ADMINISTRATION - Examination of the process, organization, administration, planning, and presentation of church music in various Christian traditions. Attention is given to concepts of worship planning, the organization of a comprehensive music program, program development and the relationship between the music ministry and various other church entities.

## MUS 352. Udstg Scrd Mus\&Wrshp. 3 Hours

UNDERSTANDING SACRED MUSIC AND WORSHIP IN THE LOCAL CHURCH - Focus on the important relationship between music and worship in the life of the church with an emphasis on major contemporary trends in sacred music and work. An historical overview of music and worship with biblical foundations for both are provided. Prerequisite(s): REL 103; (ASI 111, 112).

## MUS 360. Special Topics-Music. 1-3 Hours

SPECIAL TOPICS IN MUSIC - Studies in specialized areas of music. May be repeated as topics change, up to six semester hours. Prerequisite(s): Permission of instructor.

## MUS 381. Clin Educ Improv I. 2 Hours

CLINICAL AND EDUCATIONAL MUSIC IMPROVISATION I - Music improvisation techniques and procedures using piano, percussion, voice, guitar, and student's major instrument. Emphasis on the acquisition of clinical and educational music improvisational skills to be applied in the medical, rehabilitation, clinical and/or school music education setting. Prerequisite(s): MUS 212, 214.

## MUS 382. Clin Educ Improv II. 2 Hours

CLINICAL AND EDUCATIONAL MUSIC IMPROVISATION II Intermediate skill development in clinical and educational music improvisation. Emphasis on assessment, implementation, and evaluation of individual, dyadic, and group improvisatory experiences. Acquisition of expressive movement repertoire to improvised music. Prerequisite(s): MUS 381.

## MUS 385. Music Therapy Prin. 3 Hours

MUSIC THERAPY PRINCIPLES - Principles and processes underlying the applications of music in therapy, including philosophical approaches, assessment procedures, goals and objectives, evaluation and documentation techniques, and professional ethics and standards of clinical practice. Prerequisite(s): MUS 289.

## MUS 386. Music \& Psychothrpy. 3 Hours

MUSIC AND PSYCHOTHERAPY - Overview of concepts, methods, and materials in the clinical practice of various forms of music psychotherapy. Exploration of the role and function of music within other therapeutic approaches (e.g., cognitive, humanistic, etc.). Identification of factors and issues affecting the helping process.

## MUS 387. Practm Mus Thrpy IV. 2 Hours

PRACTICUM IN MUSIC THERAPY IV - Supervised pre-internship experiences with children and/or adults with special needs. One-hour weekly lab required. Corequisite(s): MUS 385.

## MUS 388. Practm Mus Thrpy V. 2 Hours

PRACTICUM IN MUSIC THERAPY V - Supervised pre-internship experiences with children and/or adults with special needs. One-hour weekly lab required. Corequisite(s): MUS 386.

## MUS 390. Ensembles. 0-1 Hours

ENSEMBLES - Various ensembles offered by the Department of Music. See overview page for emsemble titles. Prerequisite(s): Permission of instructor.

## MUS 391. Jazz Improv I. 1 Hour

JAZZ IMPROVISATION I - Study and performance of the musical elements that define the various styles of jazz improvisation from the beginning to the intermediate level. Prerequisite(s): MUS 114 or permission of department chairperson.

## MUS 392. Jazz Improv II. 1 Hour

JAZZ IMPROVISATION II - Study of the musical elements that define the various styles of jazz improvisation from the intermediate to the advanced level. Prerequisite(s): MUS 391 or permission of department chairperson.

## MUS 396. Jazz Kybd Harmony I. 1 Hour

JAZZ KEYBOARD HARMONY I - Practical and theoretical course of study achieved through in-depth analyses at an introductory level of chords and chord voicings, repertoire, manuscripts, videos and recordings of great jazz pianists. Students identify and perform harmonic techniques of jazz piano used by twentieth century jazz pianists. Fee. Prerequisite(s): MUS 297 or permission of department chairperson.

## MUS 397. Jazz Kybd Harmony I. 1 Hour

JAZZ KEYBOARD HARMONY II - Practical and theoretical course of study achieved through in-depth analyses at an intermediate level of chords and chord voicings, repertoire, manuscripts, videos and recordings of great jazz pianists. Students identify and perform harmonic techniques of jazz piano used by twentieth century jazz pianists. Fee. Prerequisite(s): MUS 396 or permission of department chairperson.

## MUS 398. Instrumental Jazz Improv. 1 Hour

INSTRUMENTAL JAZZ IMPROVISATION - Individualized instruction in instrumental jazz improvisation. Study of jazz theory, aural development, stylistic considerations, and repertoire. Prerequisite(s): Participation in Jazz Ensemble and/or Jazz Combo.

## MUS 399. Performance Studies. 1-2 Hours

PERFORMANCE STUDIES - Private instruction (one thirty to forty-five minute 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, and woodwinds. Fee. Prerequisite(s): Permission of instructor.

## MUS 401. Med \& Renassce Mus. 1 Hour

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.

## MUS 402. Baroque Music. 2 Hours

BAROQUE MUSIC - Literature and performing practices from 1600 to 1750; the relationship of music to social and cultural movements. Open to all University students.

## MUS 403. Classic\&Romantic Mus. 3 Hours

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.

## MUS 404. 20hth Century Music. 2 Hours

TWENTIETH-CENTURY MUSIC - Study of twentieth-century music, its styles, and its cultural contexts, including post-romantic, impressionistic, neo-classic, and avant-garde. Open to all University students.

## MUS 405. Piano Literature. 2 Hours

PIANO LITERATURE - Comprehensive survey of literature for the piano. Required of piano performance majors.

## MUS 408. Dictn\&Lit-Singrs. 2 Hours

DICTION AND LITERATURE FOR SINGERS - Course in foreign language diction with an associated survey of significant and representative works from the vocal solo repertoire. Course alternates its content: German and English; and French and Italian. Course may be repeated as content changes. Prerequisite(s): MUS 399 or 499.

## MUS 413. Style\&Design. 2 Hours

STYLE AND DESIGN - ANALYSIS - Exploration of appropriate analytical techniques as applied to Western music from the Renaissance to the present. Prerequisite(s): MUS 212.

## MUS 414. Style\&Desgn-Sythesis. 2 Hours

STYLE AND DESIGN - SYNTHESIS - Exploration and application of various musical styles as demonstrated by original compositions patterned after selected historic models. Prerequisite(s): MUS 413.

## MUS 416. Adv Orchestration. 2 Hours

ADVANCED ORCHESTRATION - Continuation of MUS 316. Intensive instrumentation studies and detailed analysis of orchestral work. Prerequisite(s): MUS 316.

## MUS 418. Research in Mus Theory. 2 Hours

RESEARCH IN MUSIC THEORY - Practical experience in analysis for music composition majors. Prerequisite(s): Senior standing in music.

## MUS 419. Research in Mus Theory. 2 Hours

RESEARCH IN MUSIC THEORY - Practical experience in analysis for music composition majors. Prerequisite(s): Senior standing in music.

## MUS 421. Composition IV. 2 Hours

COMPOSITION IV - Advanced work in musical composition, writing multimovement forms of both vocal and instrumental music. Prerequisite(s): MUS 250, 321, 322.

MUS 422. Composition IV. 2 Hours
COMPOSITION IV - Advanced work in musical composition, writing multimovement forms of both vocal and instrumental music. Prerequisite(s): MUS 250, 321, 322.

## MUS 423. Compstn-Lrge Ensemb. 2 Hours

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.

## MUS 424. Adv Notatnl Technq. 2 Hours

## MUS 425. Electron Mus Compos. 2 Hours

ELECTRONIC MUSIC COMPOSITION - Study of musical electronic techniques, ranging from tape recorders and musique concrete through synthesizer and computer-generated and organized sound.

## MUS 426. Improv Mus Compostn. 2 Hours

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.

## MUS 430. Jazz Pedagogy. 2 Hours

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. Field experience required. Corequisite(s): Participation in the jazz program.

## MUS 431. Marching Band Pedagy. 2 Hours

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 required. Corequisite(s): Participation in the marching band.

MUS 435. Piano Pedagogy. 2 Hours
PIANO PEDAGOGY - Systematic preparation for the development of piano technique and tone; survey and study of graded teaching material of grades I and II. Prerequisite(s): Four terms of piano study or equivalent.

## MUS 440. Adv Instrumentl Conduct. 2 Hours

ADVANCED INSTRUMENTAL CONDUCTING - Individualized instruction dealing with advanced analysis, interpretation, aural skills, repertoire study, and conducting. Prerequisite(s): MUS 346.

## MUS 450. Degree Recital. 0 Hours

DEGREE RECITAL - Required performance for all students pursing MUC, MUE, MUP, and MUT majors. In order to successfully complete the degree program, students must earn a satisfactory grade ("S") in this course. Prerequisite(s): MUS 250; permission of department chairperson.

## MUS 452. Contemp Litgcl Mus Rep. 2 Hours

CONTEMPORARY LITURGICAL MUSIC REPERTOIRE - Examination of ways in which contemporary musical resources are utilized in the worship of Christian churches. Choral, congregational, cantoral, and instrumental material will be considered in the context of both the liturgical seasons and specific services. REL 446 recommended.

## MUS 459. Church Music Internship. 2 Hours

CHURCH MUSIC INTERNSHIP - Minimum of one semester's supervised service as organist and/or choral director in an approved parish setting. Prerequisite(s): Completion of half of certificate requirements; permission of department chairperson.

## MUS 460. Special Topics-Music. 1-9 Hours

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(s): Senior standing in music or permission of instructor.

## MUS 461. ST:Church Music. 1-8 Hours

SPECIAL TOPICS IN CHURCH MUSIC - Studies in specialized areas of music, including music therapy and music education. May be repeated as topics change, up to eight semester hours. Prerequisite(s): Senior standing in music or permission of instructor.

## MUS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## MUS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## MUS 480. Capstone Project Sem. 1 Hour

CAPSTONE PROJECT SEMINAR - The first in a sequence of two capstone courses. To be taken in the first semester of the senior year. This course is required for all Bachelor of Arts with a major in Music degrees. Students select a faculty mentor and work with the mentor to establish a capstone project topic, goals, outcomes, and timeline associated with the project. Prerequisite(s): MUS 250; senior standing; MUS major or permission of department chairperson.

## MUS 481. Capstone Proj Pres. 1 Hour

CAPSTONE PROJECT AND PRESENTATION - The second of two capstone courses leading to graduation. To be taken in the second semester of the senior year. Students implement, complete, present, and evaluate a project within their area of concentration, reviewed by faculty and peers. Faculty approval of project and presentation is required for graduation. Prerequisite(s): MUS 480 or permission of department chairperson.

## MUS 486. Mus Therapy Research. 2 Hours

RESEARCH IN MUSIC THERAPY - Introduction to research methods; review of literature on experimental studies. Research project.

## MUS 489. Mus Therapy Intrnshp. 2 Hours

MUSIC THERAPY INTERNSHIP - Minimum of 1040 hours supervised clinical training through resident internship in an AMTA-approved program. This requirement precedes the granting of the music therapy degree. Prerequisite(s): Senior standing in music therapy; permission.

## MUS 491. University Orchestra. 1 Hour

UNIVERSITY ORCHESTRA - Performing ensemble of string, wind, brass, and percussion players; preparing literature for orchestra and chamber orchestra. Open to all University community members by audition.

## MUS 492. Symphonic Wind Ens. 1 Hour

SYMPHONIC WIND ENSEMBLE - Select band that performs the finest in wind literature. Presents regular concerts during fall and winter terms. Auditions required.

## MUS 493. University Chorale. 1 Hour

UNIVERSITY CHORALE - Mixed vocal ensemble performing music from all style periods in regular concert appearances. Open to all University students. Auditions required.

MUS 494. Dayton Jazz Ensemble. 1 Hour
DAYTON JAZZ ENSEMBLE - Ensemble specializes in the interpretation and performance of traditional and contemporary big band jazz, including the art of improvisation. Audition required.

## MUS 499. Performance. 4 Hours

PERFORMANCE STUDIES - Private instruction (one-hour lessons weekly) in the same subjects as MUS 399. Fee. Prerequisite(s): Permission of instructor.

## Philosophy

Major

- Bachelor of Arts, Philosophy

Minor:

- Philosophy

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 thirty-seven semester hours. The philosophy major program is also offered in India in conjunction with the Marianists. Consult the chairperson of the department for further information.

A minor in philosophy consists of eighteen semester hours.

## Faculty

John Inglis, Chairperson
Professors Emeriti: Kunkel, Quinn, Ulrich, Zembaty
Professors: Benson, DesAutels, Fischer, Fouke, Inglis, Johnson, Kebede, Tibbetts
Associate Professors: Gabbe, Mosser, Payne, Poe, Richards, Whisnant
Assistant Professors: James, McLeod, Paslaru, Velasquez
Lecturers: Bresnahan, Cheung, Lockwood, Marvin, Mullins

## Bachelor of Arts with a major in Philosophy (phl)

Philosophy

| PHL 103 | Intro To Philosophy | 3 |
| :--- | :--- | :--- |
| PHL 240 | Research Meth \& Tech | 1 |
| PHL 301 | Practical Logic ${ }^{1}$ | 3 |
| or PHL 302 | Symbolic Logic |  |
| PHL 350 | Classical Greek PHL | 3 |
| PHL 352 | Modern Philosophy | 3 |
| PHL 375 | Ethical Theory | 3 |
| Select two seminars $(400$ level $)$ | 6 |  |

Select one track from:
Ethics and Social Justice
Select two courses from:

| PHL 307 | Philosophy and Women |
| :--- | :--- |
| PHL 310 | Social Philosophy |
| PHL 312 | Ethics |
| PHL 313 | Business Ethics |
| PHL 314 | Philosophy of Law |
| PHL 315 | Medical Ethics |
| PHL 316 | Engineering Ethics |
| PHL 317 | Ethics\&Modern War |
| PHL 318 | Family Ethics |
| PHL 319 | Information Ethics |
| PHL 321 | Environmntl Ethics |


| PHL 327 | Philosophy of Peace |  |
| :---: | :---: | :---: |
| PHL 328 | Phil of Punishment |  |
| PHL 357 | Radical Philosophy |  |
| PHL 358 | Marxist Philosophy |  |
| PHL 364 | Race, Gender\&Phl |  |
| PHL 370 | Political Philosophy |  |
| PHL 371 | Phl \& Human Rights |  |
| PHL 372 | Values \& Economics |  |
| PHL 373 | Phl\&Cultr Diversty |  |
| Philosophy electives (9 hours) |  |  |
| History of Philosophy |  | 15 |
| Select two courses from: |  |  |
| PHL 351 | Medievel Philosophy |  |
| PHL 353 | Kant\&19th Cent Phl |  |
| PHL 354 | 20th Century Phl |  |
| PHL 361 | American Philosophy |  |
| Philosophy electives (9 hours) |  |  |
| Science, Technology, and Values |  | 15 |
| PHL 330 | Phl of Science |  |
| Select one course from: |  |  |
| PHL 306 | Phil of Knowledge |  |
| PHL 315 | Medical Ethics |  |
| PHL 316 | Engineering Ethics |  |
| PHL 319 | Information Ethics |  |
| PHL 321 | Environmntl Ethics |  |
| PHL 331 | Sci, Objtvty \& Values |  |
| PHL 332 | Technology\&Values |  |
| PHL 333 | Phl \& Cognitive Sci |  |
| PHL 334 | Phl of Ecology |  |
| Philosophy electives (9 hours) |  |  |
| Religion, Mind, and Metaphysics |  | 15 |
| PHL 308 or PHL 311 | Metaphysics <br> Phl of Religion |  |
| Select one course from: |  |  |
| PHL 309 | Phil of Mind |  |
| PHL 351 | Medievel Philosophy |  |
| PHL 355 | Asian Philosophy |  |
| PHL 356 | Christian Philosophy |  |
| PHL 360 | Existentialism |  |
| PHL 365 | Islamic PhI\& Culture |  |
| Philosophy electives (9 hours) |  |  |
| Culture and Human Diversity |  | 15 |
| Select two courses from: |  |  |
| PHL 307 | Philosophy and Women |  |
| PHL 355 | Asian Philosophy |  |
| PHL 361 | American Philosophy |  |
| PHL 363 | African Philosophy |  |
| PHL 364 | Race, Gender\&Phl |  |
| PHL 365 | Islamic Phl\& Culture |  |
| PHL 373 | Phl\&Cultr Diversty |  |
| Philosophy electives (9 hours) |  |  |
| Arts and Human Expression |  | 15 |

Select two courses from:

| PHL 320 | Philosophy of Art |
| :--- | :--- |
| PHL 323 | Phl \& Literature |
| PHL 324 | Philosophy \& Film |
| PHL 325 | Philosophy of Music |
| PHL 362 | Phl of Language |
| Philosophy electives (9 hours) |  |

Self-Designed
Philosophy electives (15 hours)

## Liberal Studies Curriculum

ASI $150 \quad$ Intr to the Univ Exp 1
Communication Competencies 3-9
Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Religious Studies 9
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Students who anticipate graduate work in philosophy are advised to take PHL 302.

## Minor in Philosophy (phl)

Philosophy

| PHL 103 | Intro To Philosophy | 3 |
| :--- | :--- | :--- |
| PHL 301 | Practical Logic | 3 |
| or PHL 302 | Symbolic Logic |  |
| Select one course from: |  | 3 |


| PHL 350 | Classical Greek PHL |
| :--- | :--- |
| PHL 351 | Medievel Philosophy |
| PHL 352 | Modern Philosophy |
| PHL 353 | Kant\&19th Cent Phl |
| PHL 354 | 20th Century Phl |

PHL seminar (400 level) 3

| Select two PHL courses | 6 |
| :--- | :---: |
| Total Hours | 18 |

## Courses

PHL 103. Intro To Philosophy. 3 Hours
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.

## PHL 240. Research Meth \& Tech. 1 Hour

RESEARCH METHODOLOGIES AND TECHNOLOGIES - Development of research skills appropriate for the major. Students submit papers carefully selected from written work required for major classes. Required for all Philosophy majors. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 301. Practical Logic. 3 Hours

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.

## PHL 302. Symbolic Logic. 3 Hours

SYMBOLIC LOGIC - Concentrated study of the valid forms of deductive argument and proof in propositional logic and in predicate logic; study of formal systems and of logic and language. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 304. Phl of Human Nature. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 306. Phil of Knowledge. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 307. Philosophy and Women. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 308. Metaphysics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 309. Phil of Mind. 3 Hours

PHILOSOPHY OF MIND - An analysis of the concept of mind and related issues such as Descartes' mind-body dualism and various responses; the nature of human agency, self-deception; and the rationality of emotions. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 310. Social Philosophy. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 311. Phl of Religion. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 312. Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 313. Business Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 314. Philosophy of Law. 3 Hours

PHILOSOPHY OF LAW - Major concepts of law to include the nature of law, legal reasoning, liberty, justice, responsibility, punishment. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 315. Medical Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 316. Engineering Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 317. Ethics\&Modern War. 3 Hours

ETHICS AND MODERN WAR - Study in applied ethics focusing on the implications of power politics and militarism; various ethical approaches used to evaluate wars, terrorism and violence; and an overview of some alternatives to war. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 318. Family Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 319. Information Ethics. 3 Hours

INFORMATION ETHICS - Examination of ethical principles, codes, cases, incidents, and issues in the design, implementation, and use of computerized information systems. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 320. Philosophy of Art. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 321. Environmntl Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 323. PhI \& Literature. 3 Hours

PHILOSOPHY AND LITERATURE - Critical examination of philosophical concepts in selected literary masterpieces, ancient and modern.
Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 324. Philosophy \& Film. 3 Hours

PHILOSOPHY AND FILM - Introduction to philosophical issues and aesthetic theory through a critical reading of texts and examination of selected narrative, documentary, animated, or abstract films.
Prerequisite(s): (ASI 111, 112) or PHL 103.

## PHL 325. Philosophy of Music. 3 Hours

PHILOSOPHY OF MUSIC - Examination of theories on the meaning of music; experiencing music as composer, performer, and listener; aesthetic criteria; moral effect of music. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 327. Philosophy of Peace. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 328. Phil of Punishment. 3 Hours

PHILOSOPHY OF PUNISHMENT - Critical examination of punishment, through an analysis of various forms of punishment and what they imply about human nature, power, social norms, and moral principles. Prerequisite(s): ASI 112 or PHL 103.

## PHL 330. Phl of Science. 3 Hours

PHILOSOPHY OF SCIENCE - Critical examination of the underpinnings of scientific knowledge, and how it differs from other systems of belief and knowledge, through an analysis and evaluation of various scientific concepts such as scientific laws, explanation, observation, and theory, with an exploration of the methods, presuppositions, and biases of scientific knowledge claims. Prerequisite(s): ASI 112 or PHL 103.

## PHL 331. Sci, Objtvty \& Values. 3 Hours

SCIENCE, OBJECTIVITY, AND VALUES - Study of three interrelated issues: the limits of scientific methodology; science as a social institution; and science and human values. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 332. Technology\&Values. 3 Hours

TECHNOLOGY AND VALUES - Study of the social impact of technologyscientists' responsibility; technological change and social change; the 'technological fix'; democracy and the new technological elite; counterculture critiques of technology. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 333. Phl \& Cognitive Sci. 3 Hours

PHILOSOPHY AND COGNITIVE SCIENCE - Philosophical introduction to recent research in cognitive psychology, artificial intelligence, and neuroscience regarding human, animal, and machine intelligence; the relation between mind, brain, and personhood; and the biology of conscious states. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 334. Phl of Ecology. 3 Hours

PHILOSOPHY OF ECOLOGY - An examination of the epistemological, methodological, ontological, and value issues of ecology, with a focus on how these issues affect the debates in philosophy of science.
Prerequisite(s): PHL 103 or ASI 112.

## PHL 340. Special Problems. 1-3 Hours

SPECIAL PROBLEMS IN PHILOSOPHY - Examination of perennial and contemporary problems of philosophy. May be repeated when topic changes. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 345. PHL Scholars Sem. 3 Hours

PHILOSOPHY SCHOLARS' SEMINAR - Study and seminar discussion of selected major philosophical works and the analysis, interpretation, and criticism of these works. Open by permission only to students in the Berry Scholars Program. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 350. Classical Greek PHL. 3 Hours

CLASSICAL GREEK PHILOSOPHY - The Greek origins of Western scientific, philosophical, and political thought; relationships to current thoughts; ideas of the pre-Socratics, Plato, and Aristotle in their cultural contexts. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 351. Medievel Philosophy. 3 Hours

MEDIEVAL PHILOSOPHY - Major philosophical problems from the fourth through the sixteenth 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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 352. Modern Philosophy. 3 Hours

MODERN PHILOSOPHY - Development of philosophy in the seventeenth and eighteenth centuries up to Kant with a focus on several major philosophical figures such as Descartes, Spinoza, Leibniz, Locke, Berkeley, and Hume. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 353. Kant\&19th Cent Phl. 3 Hours

KANT AND NINETEENTH-CENTURY PHILOSOPHY - Development of philosophy beginning with Kant through the nineteenth century including Kant and philosophers such as Fichte, Schelling, Hegel, Schopenhauer, Nietzsche, James, Peirce, and Frege. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 354. 20th Century PhI. 3 Hours

TWENTIETH-CENTURY PHILOSOPHY - Study of some of the major philosophical movements in the twentieth century including phenomenology, existentialism, critical theory (Frankfurt School), hermeneutics, and analytic philosophy. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 355. Asian Philosophy. 3 Hours

ASIAN PHILOSOPHY - Introduction to Asian philosophy through the study of philosophers, texts, philosophical schools and concepts that have their origins in Asia. Comparisons of various Asian philosophies with each other as well as with western traditions. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 356. Christian Philosophy. 3 Hours

CHRISTIAN PHILOSOPHY - Major issues such as the relation of faith to reason, the relation of science to faith, and the problem of natural law. Christian considerations of practical philosophy and social theory. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 357. Radical Philosophy. 3 Hours

RADICAL PHILOSOPHY - Study of major attempts to develop a critical understanding of society; analysis of theories such as socialism, anarchism, feminism, critical theory, and critical race theory. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 358. Marxist Philosophy. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 360. Existentialism. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 361. American Philosophy. 3 Hours

AMERICAN PHILOSOPHY - Study of the development of American philosophies in the context of historical interactions among Indigenous, European, African, and Asian worldviews in the Americas. Representatives of classical American pragmatism, such as Peirce, James, Dewey, and Addams will be studied in this context. Prerequisite(s): ASI 112 or PHL 103.

## PHL 362. PhI of Language. 3 Hours

PHILOSOPHY OF LANGUAGE - Theories of meaning and reference and their philosophical significance. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 363. African Philosophy. 3 Hours

AFRICAN PHILOSOPHY - Introduction to African world views, ethical notions, and social ideas using analytical and comparative approaches; examination of concepts of human diversity and universality; analysis of the transition of traditional African culture to modernity. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 364. Race, Gender\&Phl. 3 Hours

RACE, GENDER, AND PHILOSOPHY - Philosophical investigation into the systematic nature of racism and sexism, including inquiry into the epistemological, metaphysical, linguistic, and representational structures that sustain and perpetuate the power dynamics of western post-colonial patriarchial society. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 365. Islamic PhI\& Culture. 3 Hours

ISLAMIC PHILOSOPHY AND CULTURE - Examination of selected Islamic thinkers and philosophical traditions, from the period of the Ummayyad Caliphate to the postcolonial era, and their influence on Christian and Jewish thought. Islamic conceptions of law, political society, ethics, hermeneutics, science, revelation, and reality. Special emphasis upon the role of the arts in shaping Islamic philosophy. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 370. Political Philosophy. 3 Hours

POLITICAL PHILOSOPHY - Philosophical theories regarding the nature of the state and the legitimization of political authority will be analyzed and evaluated in the context of philosophical conceptions of human nature, liberty, equality, justice, welfare, and power. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 371. Phl \& Human Rights. 3 Hours

PHILOSOPHY AND HUMAN RIGHTS - Examination of the nature and philosophical foundations of universal moral (human) rights; and application of human rights theory to issues and cases involving civil and political rights, and rights to equality, security, subsistence, education, welfare, employment, and health care. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

PHL 372. Values \& Economics. 3 Hours
VALUES AND ECONOMICS - An inquiry into the impact of values and beliefs on the generation of modern economic forces. Analyzing capitalism as a system of validation of beliefs and values, the course relates underdevelopment with the conflict between tradition and modernity. It then reflects on the conditions of change liable to promote global expansion. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 373. Phl\&Cultr Diversty. 3 Hours

PHILOSOPHY AND CULTURAL DIVERSITY - Philosophical investigation into historical, social, and political dimensions of human diversity in its various manifestations. Topics include colonialism, racism, multiculturalism, nationalism, and democracy.

## PHL 375. Ethical Theory. 3 Hours

ETHICAL THEORY - An examination of the significant ethical theories offered by historically significant philosophers along with some contemporary critiques of these theories. The theories examined will include virtue, deontological, and utilitarian approaches. Prerequisite(s): ASI 112 or PHL 103.

PHL 376. Philosophy\&Revolutn. 3 Hours
PHILOSOPHY AND REVOLUTION - Philosophy and Revolution.

## PHL 377. PHL \& Mass Media. 3 Hours

PHILOSOPHY AND MASS MEDIA - Philosophy and Mass Media.

## PHL 378. Concept of the Self. 3 Hours

CONCEPT OF THE SELF - Concept of the Self.

## PHL 379. Latin American PHL. 3 Hours

LATIN AMERICAN PHILOSOPHY - Latin American Philosophy.

## PHL 380. Language\&Our World. 3 Hours

LANGUAGE AND OUR WORLD - Language and Our World.

## PHL 440. Advanced Problems. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 451. Sem-Individ Phlsphrs. 3 Hours

SEMINAR - 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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 461. Sem-Cont Epistemolgy. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 462. Sem-Contemp Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 463. Sem-Cont Metaphysics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112) or PHL 103.

## PHL 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## PHL 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## PHL 490. Directed Readings. 1-4 Hours

DIRECTED READINGS - Guided independent study primarily for philosophy majors but open to students who have completed twelve semester hours in philosophy. Normally three semester hours but in certain cases the chairperson may approve one, two, or four semester hours. May be repeated when topic changes. Prerequisite(s): (ASI 111, ASI 112) or PHL 103; permission of department chairperson and instructor.

## PHL 492. Directed Research. 3 Hours

DIRECTED RESEARCH - Faculty-directed research for philosophy majors who have completed all 300-level requirements and at least one 400-level seminar. Students will write a substantial paper in relation to this research. Prerequisite(s): (ASI 111, ASI 112) or PHL 103; permission of department chairperson and instructor.

## PHL 495. Internship. 1-3 Hours

INTERNSHIP - Supervised practical and professional experience related to philosophy for philosophy majors who have completed prescribed course work. May be repeated to a maximum of three semester hours. Grading Option Two only. Prerequisite(s): ASI 111, ASI 112; PHL 103, PHL 302, PHL 350, PHL 352; one 400-level seminar; permission of department chairperson.

## Physics

- Bachelor of Science, Physical Science
- Bachelor of Science, Physics
- Bachelor of Science, Physics- Computer Science


## Minor

- Physics

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 have the option of adding a multidisciplinary concentration in electro-optics to their physics degree. The concentration is appropriate for physics majors who wish to pursue possible careers in photonics or graduate degrees in the area of optics.
PHY, PSC, and PCS majors are required to attain a grade of C- or better in all physics and math courses that are prerequisite courses for physics courses required of majors.
A minor in physics consists of twelve semester hours.

## Faculty

Rex L. Berney, Chairperson
Distinguished Professor: Bueche
Distinguished Service Professor: O'Hare
Professors Emeriti: Graham, Kepes, Miner, Yaney
Professors: Berney, Brecha, Elhamri, Evwaraye, Pedrotti, Powers
Associate Professors: Ahoujja, Craver, J. Erdei, Smith
Assistant Professor: Chong
Lecturers: Kariyawasam, Song
Lab Instructors: Ballard, L. Erdei, Schaurer

## Bachelor of Science with a major in 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.

## Physical Science

| CHM 123 | General Chemistry |  |
| :--- | :--- | :---: |
| \& 123L | and Gen Chemistry Lab | 4 |
| CHM 124 | General Chemistry <br> \& 124L | and Gen Chemistry Lab |
| GEO 115 <br> \& 115L | Physical Geology <br> and Physical Geology Lab | 4 |
| GEO 116 | Geolgcl Hst-Earth | 4 |
| \& 116L | and Geolgcl Hst-Earth Lb | 4 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| PHY 208 | Gen Phy III Mec Wavs | 3 |
| PHY 210L | Gen Physics Lab I | 1 |
| PHY 211L | Gen Physics Lab II | 1 |
| Physical science electives (300/400 level) |  |  |

Breadth Requirements
ASI $150 \quad$ Intr to the Univ Exp 1

CPS 132 Progrmmng-Engr \& Sci 3

| or CPS 150 | Algorthm\&Progrm I |  |
| :---: | :---: | :---: |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| Communication Competencies |  | 3-9 |
| Humanities |  | 9 |
| Philosophy and Religious Studies |  | 12 |
| Social and Behavioral Sciences |  | 6 |
| Total Hours - general education courses/academic electives to total at least |  | 120 |
| 1 At least tw | semester hours in physics. |  |

## Bachelor of Science with a major in Physics (phy)

| General Physics Concentration |  |  |
| :--- | :--- | :--- |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| PHY 208 | Gen Phy III Mec Wavs | 3 |
| PHY 210L | Gen Physics Lab I | 1 |
| PHY 211L | Gen Physics Lab II | 1 |
| PHY 301 | Thermal Physics | 3 |
| PHY 303 | Intermediate Mech I | 3 |
| PHY 333 | Dig\&Alog Electrncs | 3 |
| PHY 390 | Intro Quantum Mech | 3 |
| PHY 408 | Int Elect \& Magn I | 3 |
| PHY 430 | Advanced Lab I | 2 |
| PHY 431 | Advanced Lab II | 2 |
| PHY electives $(300 / 400$ level) | 7 |  |

## Breadth Requirements

ASI $150 \quad$ Intr to the Univ Exp 1
CHM 123 General Chemistry 4

| $\& 123 \mathrm{~L}$ | and Gen Chemistry Lab |  |
| :--- | :--- | :--- |
| CHM 124 | General Chemistry | 4 |

$\begin{array}{lll}\& 124 \mathrm{~L} & \text { and Gen Chemistry Lab } & \\ \text { CPS 132 } & \text { Progrmmng-Engr \& Sci } & 3\end{array}$
or CPS $150 \quad$ Algorthm\&Progrm I
MTH 168 Anly Geom \& Calc I 4
MTH 169 Anly Geom \& Calc II 4
MTH 218 Anly Geom \& Calc III 4
MTH 219 Appl Diff Equations 3
MTH $310 \quad$ Lin Alg \& Matrices 3
Communication Competencies 3-9
Humanities 9
Philosophy and Religious Studies 12
Social and Behavioral Sciences 6
Total Hours - general education courses/academic electives to total 120 at least

Physics and Electro-Optics Concentration

| ECE 443 | Intro-Electro Optics | 3 |
| :--- | :--- | :--- |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |


| PHY 208 | Gen Phy III Mec Wavs | 3 |
| :--- | :--- | :--- |
| PHY 210L | Gen Physics Lab I | 1 |
| PHY 211L | Gen Physics Lab II | 1 |
| PHY 301 | Thermal Physics | 3 |
| PHY 303 | Intermediate Mech I | 3 |
| PHY 333 | Dig\&Alog Electrncs | 3 |
| PHY 390 | Intro Quantum Mech | 3 |
| PHY 404 | Physical Optics | 3 |
| PHY 408 | Int Elect \& Magn I | 3 |
| PHY 430 | Advanced Lab I | 2 |
| PHY 431 | Advanced Lab II | 2 |
| Select two courses from: | 6 |  |


| EOP 501 | Geometric Optics |
| :--- | :--- |
| EOP 502 | Opticl Radtn\&Matter |
| EOP 505 | Introductn-Lasers |
| EOP 506 | Electro-Optc Dev\&Sys |
| or ECE 573 | Electro-Optcl Dev\&Sys |
| EOP 513 | Lin Sys\&Fourier Opt |
| or ECE 572 | Lin Sys\&Fourier Opt |
| EOP 514 | Guided-Wave Optics |
| or ECE 574 | Guided Wave Optics |

## Breadth Requirements

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :--- | :---: |
| CHM 123 | General Chemistry | 4 |
| \& 123L | and Gen Chemistry Lab |  |
| CHM 124 | General Chemistry |  |
| \& 124L | and Gen Chemistry Lab | 4 |
| CPS 132 | Progrmmng-Engr \& Sci | 3 |
| or CPS 144 | Intro-Computr Progrm |  |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |

Communication Competencies ..... 3-9
Humanities ..... 9
Philosophy and Religious Studies ..... 12
Social Science and Behavioral Science ..... 6
Total Hours - general education courses/academic electives to total ..... 120

at least

## Bachelor of Science with a major in Physics-Computer Science (pcs)

This 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. For further information contact the Physics Department.

Computer Science ${ }^{1}$
27
CPS 150 Algorthm\&Progrm I

| CPS 151 | Algorthm\&Progrm II |  |
| :---: | :---: | :---: |
| CPS 250 | Intro-Comptr Org |  |
| CPS 346 | Operating Systems I |  |
| CPS 350 | Data Struct\&Algorthm |  |
| Three CPS courses (340 level or above) |  |  |
| Mathematics |  | 18 |
| MTH 168 | Anly Geom \& Calc I |  |
| MTH 169 | Anly Geom \& Calc II |  |
| MTH 218 | Anly Geom \& Calc III |  |
| MTH 219 | Appl Diff Equations |  |
| MTH 310 | Lin Alg \& Matrices |  |
| Physics ${ }^{2}$ |  | 27-30 |
| PHY 206 | Gen Physics I Mech |  |
| PHY 207 | Gen Phy II Ele \& Mag |  |
| PHY 208 | Gen Phy III Mec Wavs |  |
| PHY 210L | Gen Physics Lab I |  |
| PHY 211L | Gen Physics Lab II |  |
| PHY 323 | Computatnl Physics |  |
| PHY 333 | Dig\&Alog Electrncs |  |
| Four PHY courses (300/400 level) |  |  |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Humanities |  | 9 |
| Philosophy and Religious Studies |  | 12 |
| Social and Behavioral Sciences |  | 6 |
| Total Hours - general education courses/academic electives to total at least |  | 120 |
| 1 Additional numerical analysis courses are recommended. |  |  |
| 2 A senior project involving some application of computers in physics is recommended. |  |  |
| Minor in Physics (phy) |  |  |
| Physics |  | 12 |
| Select four PHY courses (300/400 level) |  |  |
| Total Hours |  | 12 |

## Courses

## PHY 100. Freshman Seminar. 0 Hours

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, physical science, and physics-computer science majors.

## PHY 105. Phy Sci Energy \& Env. 3 Hours

PHYSICAL SCIENCE - ENERGY AND THE ENVIRONMENT -
General introduction to principles of physics including motion, energy, thermodynamics, electricity and magnetism, and nuclear physics. Applications of these principles to non-renewable and renewable energy systems and the climate. Intended for business students.

## PHY 108. Phy Sci-Light\&Color. 3 Hours

PHYSICAL SCIENCE OF LIGHT AND COLOR - Treatment of physical science with emphasis on light, color, and the interaction of light with materials. For nonscience students.

PHY 108L. Light \& Color Lab. 1 Hour
LIGHT AND COLOR LABORATORY - Laboratory experiences to accompany PHY 108. Corequisite(s): PHY 108.

## PHY 201. General Physics. 3 Hours

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.

PHY 201L. General Physics Lab. 1 Hour 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(s): PHY 201 or PHY 206.

## PHY 202. General Physics. 3 Hours

GENERAL PHYSICS - Continuation of PHY 201 with a treatment of electricity and magnetism, wave motion and properties of light, atomic and nuclear physics. Second term, each year. Prerequisite(s): PHY 201.

## PHY 202L. General Physics Lab. 1 Hour

GENERAL PHYSICS LABORATORY - Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. Second term, each year. Prerequisite(s): PHY 201L.

## PHY 203. Mod Techncl Physics. 3 Hours

MODERN TECHNICAL PHYSICS - Introduction to selected topics in modern physics without the formalism of calculus. For engineering technology students. Prerequisite(s): College algebra, trigonometry, and introductory statics and dynamics.

## PHY 203L. Techncl Physics Lab. 1 Hour

TECHNICAL PHYSICS LABORATORY - Laboratory experiences to accompany PHY 203.

## PHY 206. Gen Physics I Mech. 3 Hours

GENERAL PHYSICS I - MECHANICS - Introductory course in mechanics for students with a strong background in physics. Three lectures, one recitation each week. Corequisite(s): MTH 148 or MTH 168.

## PHY 207. Gen Phy II Ele \& Mag. 3 Hours

GENERAL PHYSICS II - ELECTRICITY AND MAGNETISM - The basic principles of electricity and magnetism. Three lectures, one recitation each week. Prerequisite(s): PHY 201 or PHY 206. Corequisite(s): MTH 149 or MTH 169.

PHY 208. Gen Phy III Mec Wavs. 3 Hours
GENERAL PHYSICS III - MECHANICS OF WAVES - Introduction to wave phenomena (including sound, light, and matter waves) leading to basic concepts in modern physics. Prerequisite(s): (MTH 149; PHY 202) or (MTH 169; PHY 207).

## PHY 210L. Gen Physics Lab I. 1 Hour

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(s): PHY 206.

## PHY 211L. Gen Physics Lab II. 1 Hour

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(s): PHY 210L. Corequisite(s): PHY 207.

## PHY 220. Energy \& Env Physics. 3 Hours

ENERGY AND ENVIRONMENTAL PHYSICS - Introduction to the physical basis of energy systems and the climate. Topics covered will include thermodynamics, planetary radiation balance, heat transfer, basic atmospheric and ocean physics, nuclear energy, renewable energy, modeling of carbon emissions from fossil fuels, simple climate models, monitoring climate change, and mitigation strategies. Prerequisite(s): PHY 206.

## PHY 232. Physics of Waves. 3 Hours

THE PHYSICS OF WAVES - Physical concept and mathematical relations describing wave phenomena in a variety of physical systems. Topics include oscillation in mechanical and electrical systems, mechanical and electromagnetic waves, geometrical and physical optics and matter waves. Designed for electrical and computer engineering students, but open to all meeting the prerequisites. Prerequisite(s): PHY 206; MTH 169 (may be taken as a corequisite).

## PHY 250. Descriptve Astronomy. 3-4 Hours

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.

## PHY 295. Research Particip I. 1 Hour

RESEARCH PARTICIPATION I - Research Participation.

## PHY 301. Thermal Physics. 3 Hours

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(s): PHY 208 or PHY 232. Corequisite(s): MTH 219.

## PHY 303. Intermediate Mech I. 3 Hours

INTERMEDIATE MECHANICS I - The fundamental concepts of mechanics: virtual work, kinematics, special theory of relativity, Lagrange's equation-and central forces, particle dynamics. Prerequisite(s): PHY 208 or PHY 232. Corequisite(s): MTH 219.

## PHY 321. Atom \& Nuclear Phy. 3 Hours

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(s): (PHY 208 or PHY 232) or permission of instructor.

## PHY 323. Computatnl Physics. 3 Hours

COMPUTATIONAL PHYSICS - The course will explore how computers are used in physics. Topics will include simulations of physical systems, numerical analysis, and the use of mathematical analysis packages (MATHCAD, for example.) Programming will be done in True BASIC and MATHCAD. Prerequisite(s): MTH 218; (PHY 208 or PHY 232).

## PHY 333. Dig\&Alog Electrncs. 3 Hours

DIGITAL AND ANALOG ELECTRONICS FOR SCIENTISTS - Basic concepts of digital and analog integrated circuit electronics are developed as a way to understand modern microcomputer based instrumentation. A microcomputer based data collection and analysis system is used to study binary data input and output, analog to digital conversion (ADC) devices, digital to analog conversion (DAC) devices, and other digital integrated circuits and concepts. The analog electronics part of the course begins with a study of discrete analog devices and ends with operational amplifiers and their application. Two hours lecture and two hour laboratories each week. Prerequisite(s): (PHY 202L or PHY 211L) or equivalent.

## PHY 390. Intro Quantum Mech. 3 Hours

INTRODUCTION TO QUANTUM MECHANICS - Basic postulates of quantum mechanics with applications made to atomic physics. Prerequisite(s): MTH 219; (PHY 208 or PHY 232). Corequisite(s): MTH 310.

## PHY 395. Research Particip I. 1-6 Hours

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.

## PHY 399. Special Problems. 1-4 Hours

SPECIAL PROBLEMS IN PHYSICS - Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite.

## PHY 403. Interm Mechanics II. 3 Hours

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(s): PHY 303.

## PHY 404. Physical Optics. 3 Hours

PHYSICAL OPTICS - The electromagnetic wave theory of light, propagation of waves, reflection, refraction, dispersion, polarization, dichroism, birefringence, superposition of waves, interference, diffraction, Fourier optics. Prerequisite(s): MTH 219; (PHY 208 or PHY 232).

## PHY 408. Int Elect \& Magn I. 3 Hours

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. Prerequisite(s): MTH 219; (PHY 208 or PHY 232).

## PHY 409. Int Elect \& Magn II. 3 Hours

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(s): PHY 408.

## PHY 411. Topics-Mod Physics. 3 Hours

TOPICS IN MODERN PHYSICS - Elements of modern optics, solid state and other selected subjects. Consult chairperson for details. Prerequisite(s): PHY 390 or equivalent.

## PHY 420. Intro to Solid State. 3 Hours

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.
Prerequisite(s): MTH 219; (PHY 208 or 232); PHY 390.

## PHY 430. Advanced Lab I. 2 Hours

ADVANCED LAB I - Advanced Lab.
PHY 431. Advanced Lab II. 2 Hours
ADVANCED LAB II - Advanced Lab.

## PHY 440. Quantum Mechanics II. 3 Hours

QUANTUM MECHANICS II - Study of selected principles in quantum mechanics. Prerequisite(s): PHY 390.

## PHY 450. Senior Project. 3 Hours

SENIOR PROJECT - The senior project is a capstone experience for senior physics majors. It will consist of a research project of the student's choosing and will require both an oral and written report. The nature and scope of the project will be chosen in consultation with the student's advisor. Permission of the department chairperson is required. Senior physics majors only.

## PHY 460. Seminar. 1 Hour

SEMINAR - Presentation of papers by undergraduate students, faculty, and a guest lecturers on topics of concern to the modern physicist. Reviews of books and films appropriate to the group.

## PHY 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## PHY 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## PHY 495. Research Particip II. 1-6 Hours

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.

## PHY 499. Special Problems. 1-6 Hours

SPECIAL PROBLEMS IN PHYSICS - 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(s): Permission of department chairperson.

## Political Science

Majors:

- Bachelor of Arts, Human Rights
- Bachelor of Arts, Political Science

Minors:

- Human Rights
- Political Science

The Department of Political Science offers the Bachelor of Arts with a major in Political Science and the Bachelor of Arts with a major in Human Rights Studies. Minors in political science and human rights studies are also offered.

- A major in political science requires thirty-six semester hours of political science courses.
- A major in human rights studies requires forty-five to fifty-seven semester hours of courses in the humanities and the social sciences.
- A minor in political science consists of fifteen semester hours. Courses selected by students should strengthen academic or career objectives.
- A minor in human rights studies consists of eighteen semester hours.

Courses selected should strengthen academic or career objectives.

## Minors and Area Concentrations for Majors

A student majoring in political science may elect licensure in education (see EDT) or a minor 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. Students majoring in political science may elect to develop a multidisciplinary concentration in an area of interest including:

- Prelaw
- International affairs
- Public administration and urban affairs
- Political journalism
- Others developed by the student in conjunction with his or her advisor


## Faculty

Jason Pierce, Chairperson
Director of Human Rights Studies Program: Natalie Hudson
Professors Emeriti: Ahern, Fogel, Inscho, Karns, Kerns, Lapitan, Nelson Professor: Ingram
Associate Professors: Bilocerkowycz, Ensalaco, Ghere, Martorano Miller, Neeley, Pierce
Assistant Professors: Ambrosius, Budabin, Hudson, Pautz, Watkins Lecturers: Birdsong, Talbott

## Bachelor of Arts with a major in Human Rights Studies (hrs)

The Bachelor of Arts in Human Rights Studies is an integrated preprofessional degree firmly grounded in the traditional liberal arts. Students, faculty, and staff participating in the program enter into it
guided by their fundamental commitment to respect and promote the dignity of each human person. The degree is intended to produce intellectually adept students who are capable of performing rigorous research and conducting high quality analysis of critical questions in the area of human rights studies. It is equally intended to produce thoughtful and transformational servant-leaders who will apply the knowledge and skills obtained in the program to contemporary human rights issues and situations both domestically and internationally. Through the integration of liberal and pre-professional education, the interdisciplinary program prepares distinctive graduates who intend to pursue advanced study and training in the field of human rights, or careers in human rights advocacy and humanitarian assistance. Those graduates will possess the values, knowledge and skills necessary for effective public service in:

- Government agencies
- Non-governmental organizations
- International aid agencies
- Non-profit groups in human rights or humanitarian assistance

Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.

## Human Rights Studies

| ASI 397 | Hum Rights Advocacy | 3 |
| :---: | :---: | :---: |
| CMM 355 | Rhetoric-Soc Movements | 3 |
| HST 312 | Age-Democratc Revl | 3 |
| PHL 371 | Phl \& Human Rights | 3 |
| POL 305 | Intro To Public Adm | 3 |
| POL 333 | Pol of Human Rghts | 3 |
| POL 334 | Pol-Human Rights II | 3 |
| POL 406 | Internatnl Law\&Organ | 3 |
| REL 363 | Faith \& Justice | 3 |
| SOC 371 | Soc of Human Rights | 3 |
| Select one course from: |  | 3 |
| CMM 412 | Statistcl Mthd-Comm |  |
| HST 301 | Research Seminar |  |
| POL 207 | Political Analysis |  |
| SOC 208 | Social Resrch Methds |  |
| Select one course from three different concentrations: |  | 9 |
| ANT 360 | Cultures-South Asia |  |
| CJS 336 | Comp Crim Jus Systms |  |
| ECO 460 | Eco Develop \& Growth |  |
| HST 334 | Hst Pal-Isrl Cflct |  |
| HST 337 | Hst Afr-19th Cn-Pr |  |
| HST 356 | Women in Third World |  |
| HST 361 | US Legl/Const Hst II |  |
| HST 399 | Hst Blks-US s/1900 |  |
| PHL 314 | Philosophy of Law |  |
| PHL 317 | Ethics\&Modern War |  |
| PHL 327 | Philosophy of Peace |  |
| PHL 370 | Political Philosophy |  |
| PHL 372 | Values \& Economics |  |
| POL 300 | Political Issues ${ }^{1}$ |  |
| POL 319 | 20th Cent Pol Thgt |  |
| POL 331 | Ntlsm \& Ethno Poltcs |  |
| POL 450 | Civil Liberties |  |


| POL 452 | Political Violence |  |
| :---: | :---: | :---: |
| REL 358 | Liberation Theology |  |
| REL 360 | Christian Ethics |  |
| REL 366 | The Holocaust |  |
| SOC 326 | Law \& Society |  |
| SOC 328 | Racial\&Eth Minorties |  |
| SOC 339 | Social Inequality |  |
| SOC 345 | Soc of Extremism |  |
| SOC 368 | Immigration |  |
| SOC 435 | Soc of Globalization |  |
| SPN 380 | Spn\&lbero-Amr Cinema |  |
| SPN 480 | Spn\&lbero-Amr Cinema |  |
| Experiential or Research Requirement |  | 3-6 |
| Select one course from: |  | 3 |
| CMM 390 | Independent Study |  |
| HST 496 | Independent Study |  |
| PHL 492 | Directed Research |  |
| POL 321 | Russia\&New States |  |
| POL 495 | Internship |  |
| SOC 409 | Senior Project |  |
| SOC 498 | Independent Study |  |
| Or complete an Honors Thesis: |  | 6 |
| CMM 477 <br> \& CMM 478 | Honors Thesis and Honors Thesis |  |
| HST 477 <br> \& HST 478 | Honors Thesis and Honors Thesis |  |
| PHL 477 <br> \& PHL 478 | Honors Thesis and Honors Thesis |  |
| $\begin{aligned} & \text { POL } 477 \\ & \text { \& POL } 478 \end{aligned}$ | Honors Thesis and Honors Thesis |  |
| REL 477 <br> \& REL 478 | Honors Thesis and Honors Thesis |  |
| $\begin{aligned} & \text { SOC } 477 \\ & \text { \& SOC } 478 \end{aligned}$ | Honors Thesis and Honors Thesis |  |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| L2 Proficiency (Proficiency in a language other than English) ${ }^{2}$ |  | 0-11 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 12 |
| Social Sciences |  | 12 |
| Total Hours - general education courses/academic electives to total at least |  | 124 |

1 This course can only be counted when taught as International Political Economy.
2 Majors must demonstrate proficiency in a foreign language by passing a University proficiency examination or by completing a language course at the 141 level or higher with a minimum grade of C in one of the following languages:

- Arabic
- French
- German
- Italian
- Mandarin Chinese
- Russian
- Spanish


## Bachelor of Arts with a major in Political Science (pol)

| Political Science | 39 |  |
| :--- | :--- | :---: |
| POL 200 | Intro to Pol Science | 3 |
| POL 201 | Amer Political Systems | 3 |
| POL 202 | Intro Comp Politics | 3 |
| or POL 214 | Intro-Intrntl Poltcs | 3 |
| POL 207 | Political Analysis | 3 |
| POL 316 | American Pol Thought |  |
| or POL 317 <br> or POL 319 | Dev-Political Theory |  |

Select eight POL courses ${ }^{1,2} 24$
Liberal Studies Curriculum
ASI $150 \quad$ Intr to the Univ Exp
Communication Competencies 3-9
Creative and Performing Arts 3
History 6

L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Including twenty-one semester hours at the 300/400 level.
2 Students earning the B.A. in Political Science may count no more than six semester hours earned on internships (POL 495) toward the fulfillment of the degree requirements in POL. Students may, however, take additional hours of internship credit (POL 495) and count them toward the necessary 124 hours needed for graduation.

## Minor in Human Rights Studies (hrs)

The interdisciplinary minor in Human Rights Studies provides students an opportunity to address issues related to human rights from various disciplinary approaches. The universal nature of human rights issues may directly relate to a major, while in other cases this minor will provide an opportunity for broadening one's exposure to these important topics.
The Human Rights Studies minor requires eighteen semester hours. It is recommended that the required course be taken in the sophomore year. Students should consult with the Director of Human Rights Studies
to ensure that the courses selected from the elective pool display a significant degree of coherence. Courses taken from this minor may be applied to other minors and to breadth and general education requirements.

## Human Rights Studies

| POL 333 | Pol of Human Rghts | 3 |
| :--- | :--- | :--- |
| POL 334 | Pol-Human Rights II | 3 |

Select one course from: 3

| PHL 371 | Phl \& Human Rights |
| :--- | :--- |
| REL 363 | Faith \& Justice |
| elect one course from: | 3 |

Select one course from:
ANT 325 Anth of Human Rights
SOC 371 Soc of Human Rights
Select two courses from: ${ }^{1,2} 6$

| ANT 325 | Anth of Human Rights |
| :---: | :---: |
| ANT 360 | Cultures-South Asia |
| ANT 368 | Immigration |
| CJS 336 | Comp Crim Jus Systms |
| CMM 355 | Rhetoric-Soc Movements |
| ECO 460 | Eco Develop \& Growth |
| HST 312 | Age-Democratc Revl |
| HST 334 | Hst Pal-Isrl Cflct |
| HST 337 | Hst Afr-19th Cn-Pr |
| HST 356 | Women in Third World |
| HST 361 | US Legl/Const Hst II |
| HST 399 | Hst Blks-US s/1900 |
| PHL 314 | Philosophy of Law |
| PHL 317 | Ethics\&Modern War |
| PHL 327 | Philosophy of Peace |
| PHL 370 | Political Philosophy |
| PHL 371 | Phl \& Human Rights |
| PHL 372 | Values \& Economics |
| POL 300 | Political Issues ${ }^{3}$ |
| POL 305 | Intro To Public Adm |
| POL 319 | 20th Cent Pol Thgt |
| POL 331 | Ntlsm \& Ethno Poltcs |
| POL 406 | Internatnl Law\&Organ |
| POL 450 | Civil Liberties |
| POL 452 | Political Violence |
| REL 358 | Liberation Theology |
| REL 360 | Christian Ethics |
| REL 363 | Faith \& Justice |
| REL 366 | The Holocaust |
| SOC 326 | Law \& Society |
| SOC 328 | Racial\&Eth Minorties |
| SOC 339 | Social Inequality |
| SOC 345 | Soc of Extremism |
| SOC 368 | Immigration |
| SOC 371 | Soc of Human Rights |
| SOC 435 | Soc of Globalization |

1 At least one course must be from CMM, HST, PHL, or REL.
2 Select any course that has not been already used to fulfill other Human Rights Studies Minor requirements.
3 This course can only be counted when the topic is relevant to human rights.

## Minor in Political Science (pol)

Political Science

| POL $201 \quad$ Amer Political Systems | 3 |
| :--- | :---: |
| Select four POL courses (300/400 level) | 12 |
| Total Hours | 15 |

## Courses

POL 101. Global Politics. 3 Hours
GLOBAL POLITICS - Examination of major problems and trends in world politics such as ethnic and religious conflict, economic integration and inequality, democratization and security issues, as well as the role of regional and international organizations.

## POL 200. Intro to Pol Science. 3 Hours

INTRODUCTION TO POLITICAL SCIENCE - Study of the dominant theoretical approaches, central questions and concepts, and history of political science. Political Science majors only.

## POL 201. Amer Political Systems. 3 Hours

THE AMERICAN POLITICAL SYSTEM - Study of the American political system, its attitudinal and constitutional base, its structure and processes.

## POL 202. Intro Comp Politics. 3 Hours

INTRODUCTION TO COMPARATIVE POLITICS - Analysis of major concepts and approaches in the study of comparative government and politics.

## POL 207. Political Analysis. 3 Hours

POLITICAL ANALYSIS - Introduction to the basic concepts and processes of research in political science.

## POL 214. Intro-Intrntl Poltcs. 3 Hours

INTRODUCTION TO INTERNATIONAL POLITICS - Analysis of the dynamic forces of conflict and cooperation in world politics.

## POL 300. Political Issues. 3 Hours

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.

## POL 301. Amer Judicl Process. 3 Hours

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).

## POL 303. State \& Local Govt. 3 Hours

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.

POL 305. Intro To Public Adm. 3 Hours
INTRODUCTION TO PUBLIC ADMINISTRATION - Basic principles of organization and management in executive departments of government at all levels; questions of planning, leadership, and control.

## POL 306. Pub Policy Analysis. 3 Hours

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.

## POL 307. Pol Bureacracy\&Reg. 3 Hours

THE POLITICS OF BUREAUCRACY AND REGULATION - Examination of the nature and meaning of bureaucracy in contemporary American society, its relationship to the private sector, and the devices for its evaluation and control.

## POL 308. Morality Policy. 3 Hours

MORALITY POLICY - Introduction to the morality-based public policy debate with comparison of morality policy (e.g. abortion, drugs, gay rights, pornography) and traditional forms of public policy; study of the moral basis underlying current political topics and debate.

POL 310. Pol Prts, Cmpns\&Eltns. 3 Hours
POLITICAL PARTIES, CAMPAIGNS, AND ELECTIONS - Analysis of the history, nature, and function of political parties and their role in the political system in both a domestic and comparative context.

## POL 311. Pub Opin \& Pol Bhvr. 3 Hours

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.

## POL 313. American Presidency. 3 Hours

THE AMERICAN PRESIDENCY - Study of the American presidency, the development of presidential powers, and its leadership role in the political system.

## POL 314. Interest Group Pols. 3 Hours

INTEREST GROUP POLITICS - Exploration of the role of interest groups in the American political system through an examination of their internal organization and their roles in the electoral and policy making processes at the national, state and local levels. Prerequisite(s): POL 201.

## POL 316. American Pol Thought. 3 Hours

AMERICAN POLITICAL THOUGHT - An exploration and critical investigation of selected actors, thinkers, texts, ideas and movements in American political thought and theory from the colonial period to the present. Topics may include the founding, the age of Jackson, the Civil War, Progressivism, Women's Suffrage, the New Deal, the Cold War, the Civil Rights Movement, the 1960s, and others.

## POL 317. Dev-Political Theory. 3 Hours

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.

## POL 318. Public Integrity. 3 Hours

PUBLIC INTEGRITY AND POLITICAL LEADERSHIP - Analysis of contemporary leadership issues related to integrity and values in political office-holding, public service, and global governance contexts. Prerequisite(s): CMM 201 or (POL 201 or POL 202 or POL 214) or permission of instructor.

## POL 319. 20th Cent Pol Thgt. 3 Hours

TWENTIETH-CENTURY POLITICAL THOUGHT - Analysis of selected political theorists, concepts, and movements from the late nineteenth century to the present. Thinkers and concepts may include Marx, Nietzsche, Sarte, Camus, Freud, Arendt, Strauss, the Frankfurt School, Fanon, Foucault, Rawls, Rorty, existentialism, feminism, colonialism, post-modernity, liberalism, neo-conservatism among others.

## POL 320. Western Europe. 3 Hours

COMPARATIVE POLITICS: WESTERN EUROPE - Analysis of governmental institutions and political processes of Western Europe.

## POL 321. Russia\&New States. 3 Hours

COMPARATIVE POLITICS: RUSSIA AND THE NEW STATES - Analysis of governmental institutions and political processes of Russia and the New States.

## POL 323. Latin America. 3 Hours

## POL 331. Ntlsm \& Ethno Poltcs. 3 Hours

NATIONALISM AND ETHNOPOLITICS - An analysis of the politics of nationalism and ethnicity and their impact on social justice. Diverse case studies (US, Russia, Northern Ireland, Israeli-Palestinian) and institutions (European Community, United Nations) will be explored.

## POL 333. Pol of Human Rghts. 3 Hours

POLITICS OF HUMAN RIGHTS - Examines the evolution of international human rights norms and the creation of the institutions for the protection and promotion of human rights, and case material relating to each category of internationally recognized human rights.

## POL 334. Pol-Human Rights II. 3 Hours

POLITICS OF HUMAN RIGHTS II - This research seminar examines select topics related to the protection and promotion of human rights. This course is required for all Human Rights Studies majors. The research seminar adopts a case-study approach that enables students to analyze the complex social, economic, cultural, and political factors that impede the full realization of internationally recognized human rights, and to critically evaluate the effectiveness of the advocacy strategies used by inter-governmental human rights bodies and non-governmental human rights organizations. Thus, this seminar is designed to enable students to connect human rights theory and practice. Part I (Overview) provides a more in-depth examination of the material covered in POL 333 (the Politics of Human Rights I). Part II (Case Studies) examines critical contemporary issues and covers the full range of civil, political, economic, social, and cultural rights. Students will collaborate on team research projects and produce a final Human Rights Report containing an analysis of a specific situation of the violation of human rights, findings of fact, and recommendations aimed at rectifying the situation. Students will present and defend their team reports and present in class at the end of the semester. Prerequisite(s): POL 333.

POL 335. US Natnl Sec Policy. 3 Hours
UNITED STATES NATIONAL SECURITY POLICY - Analysis of various political, economic, and military issues and problems relating to U.S. national security.

## POL 340. Gender\&Internatnl Rel. 3 Hours

GENDER AND INTERNATIONAL RELATIONS - An examination of feminist approaches to the study of international politics and the influence of gender roles on notions of international peace, security, power, development, democracy, human rights, transnational advocacy, and conflict resolution. Prerequisite(s): (POL 101 or POL 214) or permission of instructor.

## POL 350. Legislative Politics. 3 Hours

LEGISLATIVE POLITICS - Study of the U.S. Congress, its organization and procedures, and its powers and influence in the political system.

## POL 360. Urban Politics. 3 Hours

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.

## POL 365. Disaster Policy\&Adm. 3 Hours

DISASTER POLICY AND ADMINISTRATION - Exploration of policy approaches and administrative response strategies related to various phases of disasters and security crises in the U.S. and international settings with attention to human rights issues. Prerequisite(s): POL 201 or permission of instructor.

## POL 371. Environmental Policy. 3 Hours

ENVIRONMENTAL POLICY - Examination of environmental public policymaking and implementation in the U.S. and in the international arena. Analysis of domestic and international government responses to specific environmental issues.

## POL 404. US-Latin Am Relatns. 3 Hours

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. Prerequisite(s): (POL 210 or POL 214) or permission of instructor.

## POL 406. Internatnl Law\&Organ. 3 Hours

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. Prerequisite(s): POL 214 or permission of instructor.

## POL 408. Amer Foreign Policy. 3 Hours

AMERICAN FOREIGN POLICY - Critical study of the American foreign policy process and evaluation of the sources of American foreign policy. Prerequisite(s): (POL 201, POL 214) or permission of instructor.

## POL 409. Russian Foreign Plcy. 3 Hours

RUSSIAN FOREIGN POLICY - Analysis of the internal and external factors shaping the foreign policies of Russia and the independent republics.

## POL 410. Comp Foreign Policy. 3 Hours

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. Prerequisite(s): (POL 202 or POL 217) or permission of instructor.

## POL 411. Constitutional Law. 3 Hours

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. Prerequisite(s): POL 301 or permission of instructor.

## POL 412. Comparative Law. 3 Hours

COMPARATIVE LAW - Explores how foreign judicial systems protect and promote civil and political rights through different constitutional designs. Prerequisite(s): POL 301.

## POL 413. Poltcs-Bureau\&RegIn. 3 Hours

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.

## POL 421. Seminar. 3 Hours

SEMINAR IN POLITICAL SCIENCE - Seminar on current problems and issues in political science. May be taken more than once when content changes. Prerequisite(s): Political Science major; completed POL core courses.

## POL 426. Ldrshp-Communities. 3 Hours

LEADERSHIP IN BUILDING COMMUNITIES - Investigation of the processes by which urban neighborhoods develop themselves from the inside out. Students cultivate their own interdisciplinary appreciation of urban communities through extensive interaction with one neighborhood's visioning process. Topics include asset-based community development, social capital, citizenship, adaptive leadership, and community building strategies and tools.

## POL 431. Independent Study. 1-3 Hours

INDEPENDENT STUDY AND RESEARCH - Individual reading and research on selected topics under faculty direction. Recommended for seniors only. Prerequisite(s): Permission of instructor or department chairperson.

## POL 450. Civil Liberties. 3 Hours

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. Prerequisite(s): (POL 301 or POL 411) or permission of instructor.

## POL 452. Political Violence. 3 Hours

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. Prerequisite(s): (POL 202 or POL 333) or permission of instructor.

## POL 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## POL 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## POL 479. Selected Topics. 3 Hours

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.

## POL 495. Internship. 1-9 Hours

INTERNSHIP - Supervised experience in government agencies and programs. Prelaw students are assigned to law firms and judicial chambers. Prerequisite(s): Permission of supervising professor.

## POL 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Political Science. Repeatable up to three semester hours. No more than three semester hours of Social Science 497 credits can count toward graduation. Prerequisite(s): Permission of instructor. Corequisite(s): A 300-400 Political Science course.

## Prelaw

At the University of Dayton, any student, regardless of major, thinking about attending law school should join the Prelaw Program. The program provides students 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, preparatory services, and access to resources 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 for
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, exposition and argumentation, persuasion, and 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 systems, 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 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 (through the Political Science department) 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 Committee

Laura H. Hume (History), Director
Alakkad (Engineering), Becker (Sociology), Berry (Psychology), Carter (History), Flockerzie (History), Frasca (Economics, Business Administration), Hume (History), Ingram (Political Science), Kimbrough (English), Payne (Philosophy), Pierce (Political Science), Robinson (Biology), Russo (Education and Allied Professions), Yoder (Communication)

## Courses

## PLW 301. Mock Trial I. 1 Hour

MOCK TRIAL I - Practice and performance of attorney and witness roles for Mock Trial National Competition case. Repeatable up to four semester hours.

## PLW 302. Mock Trial II. 1 Hour

MOCK TRIAL II - Practice and performance of attorney and witness roles for Mock Trial Regional and National competitions. Repeatable up to four semester hours. Prerequisite(s): PLW 301; invitation by mock trial coaches.

## Premedicine/Predentistry

## Majors:

- Bachelor of Science, Premedicine
- Bachelor of Science, Predentistry

The Bachelor of Science with a major in premedicine (MED) or predentistry (DEN) is an interdisciplinary curriculum of study. It is distinctively designed to provide a science-based, diverse education as a preparation for admission to any of the allied health care professional schools including medical, dental, veterinary, and chiropractic. Courses in biology, chemistry, mathematics, and physics comprise the science core of the major. A substantial complement of humanities and social sciences courses are also required. Within this framework the curriculum is flexible and can be tailored to suit personal interests. During the first two years, students enroll in courses appropriate for entry into professional schools while they also fulfill basic University requirements.

Admission to professional schools depends upon many factors in addition to the curriculum or major. Academic standing, performance on standardized examinations, practical experience relevant to the profession of interest, and adherence to application procedures are all important. The Premedical Programs Office addresses these factors through a comprehensive approach to pre-health care education.

Along with the administration of the DEN and MED majors, the Premedical Programs office acts as the focal point for all matters related to admission to any allied health care professional school. It is an information clearing house, functions as a liaison with professional schools, and coordinates the application process. Students in any major planning to apply to professional schools are urged to maintain a close relationship with this office.

The University automatically enrolls entering premedical or predental majors into special orientation classes, and identifies them to the Premedical Programs office. Members of the Premedical/Predental Advisory Committee advise these students. However, advising services are available to all pre-professional students regardless of their major. Students in other majors may elect to have committee members serve as their secondary advisors; such students should identify themselves to the Premedical Programs office.

In addition to providing counseling, Premedical Programs offers a seminar series, joint programs with medical schools, grants for health care related experiences, and scholarships. Since admission to professional schools is highly selective, the program monitors the academic progress of MED/DEN majors, and provides feedback at the end of the first and second year. Transfers to other majors, particularly to science majors, can usually be accommodated during the first two years without affecting normal progress towards graduation.

## Premedical/Predental Advisory Committee

Kathleen C. Scheltens, Director
Abueida (Mathematics), Ahoujja (Physics), Burky (Biology), Church (Chemistry), Craver (Physics), J. Erdei (Physics), Friese (Biology), Hansen (Biology), Johnson (Chemistry), Kango-Singh (Biology), Krane (Biology), Lopper (Chemistry), Nielsen (Biology), Rowe (Biology), Smith (Physics), Singh (Biology), S. Swavey (Chemistry), T. Williams (Biology), S. Wright (Biology)

## Bachelor of Science in Predentistry (den)

Predentistry

| BIO 151 | Concepts of Bio I | 4 |
| :--- | :--- | :--- |
| $\& 151$ L | and Concepts-Bio Lab I |  |
| BIO 152 | Concepts of Bio II | 4 |
| $\& 152$ L | and Concepts-Bio Lab II |  |


| CHM 123 <br> \& 123L | General Chemistry and Gen Chemistry Lab | 4 |
| :---: | :---: | :---: |
| CHM 124 \& 124L | General Chemistry and Gen Chemistry Lab | 4 |
| CHM 313 <br> \& 313L | Organic Chemistry and Organic Chemistry Lab | 4 |
| CHM 314 <br> \& 314L | Organic Chemistry and Organic Chem Lab | 4 |
| CHM 420 | Biochemistry | 3 |
| CHM 462L | Biochemistry Lab | 1 |
| MTH 148 <br> \& MTH 149 <br> or MTH 168 <br> \& MTH 169 | Introductory Calc I and Introductory Calc II <br> Anly Geom \& Calc I and Anly Geom \& Calc II | 3 |
| PHY 201 <br> \& PHY 202 <br> or PHY 206 <br> \& PHY 207 <br> \& PHY 208 | General Physics and General Physics ${ }^{2}$ <br> Gen Physics I Mech and Gen Phy II Ele \& Mag and Gen Phy III Mec Wavs | 3 |
| PHY 201L | General Physics Lab ${ }^{2}$ | 1 |
| PHY 202L | General Physics Lab | 1 |
| Select one cour | from: | 3 |
| CPS 111 | Intro-Personal Comp |  |
| MTH 207 | Intro to Statistics |  |
| MTH 367 | Statistical Meth I |  |
| Select five sci from: | e courses, two with accompanying laboratories, | 17 |
| $\begin{aligned} & \text { BIO } 309 \\ & \& 309 \mathrm{~L} \end{aligned}$ | Comp Anat Vertebrts and Comp Anatomy Lab |  |
| $\begin{aligned} & \text { BIO } 312 \\ & \text { \& 312L } \end{aligned}$ | General Genetics and Genetics Lab |  |
| $\begin{aligned} & \text { BIO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Physiology I and Physiology Lab |  |
| BIO 404 | Physiology II |  |
| $\begin{aligned} & \text { BIO } 411 \\ & \& 411 \mathrm{~L} \end{aligned}$ | General Microbiology and Gen Microbiology Lab |  |
| BIO 415 | Neurobiology |  |
| BIO 427 | Immunology |  |
| BIO 439 | Analysis Biol Data |  |
| $\begin{aligned} & \text { BIO } 440 \\ & \& 440 \mathrm{~L} \end{aligned}$ | Cell Biology and Cell Bio Lab |  |
| $\begin{aligned} & \text { BIO } 442 \\ & \& 442 \mathrm{~L} \end{aligned}$ | Developmental Bio and Devlpmntl Bio Lab |  |
| BIO 445 | Evolution\&Devlpmnt |  |
| BIO 460 | Intro Bioinformatics |  |
| BIO 462 | Molecular Biology |  |
| BIO 466 | Bio-Infectious Dis |  |
| BIO 470 | Cancer Biology |  |
| $\begin{aligned} & \text { BIO } 475 \\ & \& 475 \mathrm{~L} \end{aligned}$ | Human Anatomy and Human Anatomy Lab |  |
| $\begin{aligned} & \text { BIO } 480 \\ & \& 480 \mathrm{~L} \end{aligned}$ | Prin of Microscopy and Microscopy Lab |  |
| $\begin{aligned} & \text { CHM } 201 \\ & \& 201 \mathrm{~L} \end{aligned}$ | Quantitative Anal and Quant Analysis Lab |  |
| CHM 302 | Physical Chemistry |  |



1 Students with a weak background should take MTH 137 and MTH 138, followed by MTH 149. Well qualified students are advised to take MTH 168-MTH 169.
2 Well qualified students are strongly advised to take PHY 206-PHY 207-PHY 208 lecture sequence with PHY 201L and PHY 202 L.
3 The elective courses must be directly related to the primary field of interest.
4 Only general elective courses can be taken under Grading Option Two.
5 Select ENG elective from among ENG 203, ENG 204, ENG 205, ENG 272, ENG 316, or any 300-level General Education ENG elective. ENG 373, when content is Medical Writing, is recommended.
6 One PHL or REL elective must be an ethics course. Select from among PHL 312, PHL 315; REL 360, REL 367.

## Courses

## MED 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## MED 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## Psychology

Majors:

- Bachelor of Arts, Psychology
- Bachelor of Science, Psychology

Minor:

## - Psychology

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 degrees. 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. It also allows for easy transfer into psychology from prior majors. The department encourages students who are interested in preparation for graduate school or a career in a particular area of psychology to consult the Psychology Undergraduate Student Handbook, available on the World Wide Web, for a listing of courses that are recommended for preparation in that area. Some examples of such areas include clinical psychology, developmental psychology, human factors/ergonomics, and social psychology.

Each psychology major must complete: PSY 101, PSY 216, and PSY 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.
Psychology majors are required to attain grades of C - or better in the following courses:

| PSY 101 | Introductory Psych | 3 |
| :--- | :--- | :--- |
| PSY 216 | Elementary Statistic | 3 |
| PSY 217 | Expermntl Psychology | 3 |

and any two courses from each of the two core groupings:

| PSY 321 | Cognitive Processes | 3 |
| :--- | :--- | :--- |
| PSY 322 | Learning | 3 |
| PSY 323 | Psy of Perception | 3 |
| PSY 422 | Physiological Psy | 3 |
| PSY 341 | Social Psychology | 3 |
| PSY 351 | Child Psychology | 3 |
| PSY 361 | Personality | 3 |
| PSY 363 | Abnormal Psychology | 3 |

If a C- or better is not attained, courses will have to be retaken if they are used to satisfy the psychology major.

A minor in psychology consists of eighteen semester hours.
Faculty
Carolyn Roecker Phelps, Chairperson
Professors Emeriti: Allik, Biers, Butter, DaPolito, Korte, Kuntz, Moroney Professors: Eggemeier, Polzella, Reeb
Associate Professors: Bauer, Crutcher, Elvers, Katsuyama, Kirschman, Roecker Phelps, Zois
Assistant Professors: Davis, Dixon, Goodnight, Kunz, Montoya, O'Mara Visiting Assistant Professor: Berry
Lecturers: Engle, Farnsworth, Layman-Guadalupe, Rodriguez

## Bachelor of Arts with a major in Psychology (psy)

| Psychology |  | 3 |
| :--- | :--- | :--- |
| PSY 101 | Introductory Psych | 3 |
| PSY 216 | Elementary Statistic | 3 |
| PSY 217 | Expermntl Psychology | 6 |


| PSY 322 | Learning |
| :--- | :--- |
| PSY 323 | Psy of Perception |
| PSY 422 | Physiological Psy |

Select two courses from: 6

| PSY 341 | Social Psychology |
| :--- | :--- |
| PSY 351 | Child Psychology |
| PSY 361 | Personality |
| PSY 363 | Abnormal Psychology |

PSY electives ${ }^{1}$ ..... $12-24$
Liberal Studies Curriculum

| ASI 150 | Intr to the Univ Exp | 1 |
| :--- | :---: | :---: |
| Mathematics | $3-4$ |  |

    MTH 207 Intro to Statistics \({ }^{2}\)
    
    or MTH 137 Calc I with Review
    
    or MTH 148 Introductory Calc I
    
    or MTH 168 Anly Geom \& Calc I
    Communication Competencies 3-9
Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social and Behavioral Sciences (excludes PSY courses) 12
Total Hours - general education courses/academic electives to total 124
at least
1 No more than a total of six hours of PSY 352, PSY 477, PSY 478,
PSY 490, PSY 493, PSY 494 and/or PSY 497 may count toward the
thirty-three semester hours required in PSY for the major.
2 Selection of MTH 207 is strongly encouraged.

## Bachelor of Science with a major in Psychology (psy)

| Psychology |  |  |
| :---: | :---: | :---: |
| PSY 101 | Introductory Psych | 3 |
| PSY 216 | Elementary Statistic | 3 |
| PSY 217 | Expermntl Psychology | 3 |
| Select two courses from: |  | 6 |
| PSY 321 | Cognitive Processes |  |
| PSY 322 | Learning |  |
| PSY 323 | Psy of Perception |  |
| PSY 422 | Physiological Psy |  |
| Select two courses from: |  | 6 |
| PSY 341 | Social Psychology |  |
| PSY 351 | Child Psychology |  |
| PSY 361 | Personality |  |
| PSY 363 | Abnormal Psychology |  |
| PSY electives ${ }^{1}$ |  | 12-24 |
| Breadth Requirements |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Mathematics ${ }^{2}$ |  | 6-8 |


| MTH 207 | Intro to Statistics |  |
| :--- | :--- | :---: |
| MTH 137 | Calc I with Review |  |
| or MTH 148 | Introductory Calc I |  |
| or MTH 168 | Anly Geom \& Calc I |  |
| Communication Competencies | $3-9$ |  |
| Humanities | 9 |  |
| Natural Sciences ${ }^{3}$ | 24 |  |
| Philosophy and Religious Studies | 12 |  |
| Social and Behavioral Sciences (excludes PSY courses) | 6 |  |
| Total Hours - general education courses/academic electives to total | 120 |  |
| at least |  |  |

1 No more than a total of six hours of PSY 352, PSY 477, PSY 478, PSY 490, PSY 493, PSY 494 and/or PSY 497 may count toward the thirty-three semester hours required in PSY for the major.
2 The Mathematics requirement may also be satisfied by taking MTH 137 \& MTH 138, or MTH 148 \& MTH 149, or MTH 168 \& MTH 169.
3 Two three-semester hour natural science courses (BIO, CHM, GEO, PHY) with accompanying laboratories are required. The remaining sixteen semester hours may be fulfilled by courses in BIO, CHM, GEO, PHY, and CPS courses as well as by MTH courses beyond the departmental MTH requirement.

## Minor in Psychology (psy)

| Psychology |  | 3 |
| :--- | :--- | :--- |
| PSY 101 | Introductory Psych | 3 |
| Select one course from: |  |  |
| PSY 321 | Cognitive Processes |  |
| PSY 322 | Learning |  |
| PSY 323 | Psy of Perception |  |
| PSY 422 | Physiological Psy | 3 |
| Select one course from: |  |  |
| PSY 341 | Social Psychology |  |
| PSY 351 | Child Psychology |  |
| PSY 361 | Personality |  |
| PSY 363 | Abnormal Psychology |  |
| Select three PSY courses (300/400 level) ${ }^{1}$ |  |  |
| Total Hours |  | 18 |

1 Only three semester hours of PSY 352, PSY 490, PSY 493, PSY 494, and/or PSY 497 may count toward the minor.

## Courses

## PSY 101. Introductory Psych. 3 Hours

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.

## PSY 216. Elementary Statistic. 3 Hours

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. Prerequisite(s): MTH 102 or higher; PSY 101.

## PSY 217. Expermntl Psychology. 3 Hours

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. Prerequisite(s): PSY 101, PSY 216.

## PSY 251. Hum Growth \& Develop. 3 Hours

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(s): PSY 101.

## PSY 321. Cognitive Processes. 3 Hours

COGNITIVE PROCESSES - Information-processing approach to attention, perception, memory, imagery, and thought. Theoretical structures including neuron modeling of higher cognitive and experimental processes. Prerequisite(s): PSY 101.

## PSY 321L. Cognitv Process Lab. 1 Hour

COGNITIVE PROCESSES LABORATORY - In-depth discussion of seminal research in cognition. Collection, analysis, and interpretation of data. Prerequisite(s): (PSY 101, PSY 216, PSY 217, PSY 321) or permission of instructor.

## PSY 322. Learning. 3 Hours

LEARNING - Foundations of the learning process. Classical and instrumental paradigms and variants of each considered in preparation for investigations of complex learning. Prerequisite(s): PSY 101.

## PSY 323. Psy of Perception. 3 Hours

PSYCHOLOGY OF PERCEPTION - Introduction to major theoretical and experimental work in perception, including visual, auditory, proprioceptive, and other sensory systems. Prerequisite(s): PSY 101.

## PSY 333. PSY Tests\&Measurmnts. 3 Hours

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. Prerequisite(s): (PSY 101, PSY 216) or equivalent.

## PSY 334. Industrial Psycholgy. 3 Hours

INDUSTRIAL PSYCHOLOGY - Introduction to modern efforts to improve human performance in industrial organizations and society; selection and placement of employees, morale, training, and incentives. Prerequisite(s): PSY 101.

## PSY 341. Social Psychology. 3 Hours

SOCIAL PSYCHOLOGY - Survey of major theoretical and experimental work in the field; attitudes, conformity, emotions, group dynamics.

## PSY 344. Interprsnl Relations. 3 Hours

INTERPERSONAL RELATIONSHIPS - Social psychological research in nonverbal behavior, social exchange, self-disclosure, and interpersonal attraction and how these are related to developing relationships.
Prerequisite(s): PSY 101.

## PSY 351. Child Psychology. 3 Hours

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(s): PSY 101.

## PSY 352. Fld Exper-Chld Psy. 1 Hour

FIELD EXPERIENCE IN CHILD PSYCHOLOGY - Practical experience with a community agency providing instructional, recreational, or therapeutic services. Volunteer four to five hours weekly. Prerequisite(s): PSY 101; PSY 351 (may be taken as a corequisite).

## PSY 353. PSY Adult Dev/Aging. 3 Hours

THE PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING -
Provides a general introduction to the multi-disciplinary field of adulthood and aging with a specific focus on aspects of interest to psychologists: cognitive, intellectual, personality, and biological changes across adult development. Prerequisite(s): PSY 101.

## PSY 355. Devlp Psychpath. 3 Hours

DEVELOPMENTAL PSYCHOPATHOLOGY - Survey of developmental theory and research related to the psychopathology of infants, children, and adolescents. Focus is on etiology, identification, and intervention. Prerequisite(s): (PSY 101, PSY 351) or permission of instructor.

## PSY 361. Personality. 3 Hours

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(s): PSY 101.

## PSY 363. Abnormal Psychology. 3 Hours

ABNORMAL PSYCHOLOGY - Patterns of disordered behavior; social, psychological, and physiological factors; theoretical explanations of abnormal behavior. Prerequisite(s): PSY 101.

## PSY 364. Psychotherapy. 3 Hours

PSYCHOTHERAPY - Survey of current types of psychotherapy.
Emphasis on similarities and differences in underlying theories of behavioral change and associated techniques. Prerequisite(s): PSY 101.

## PSY 366. Health Psychology. 3 Hours

HEALTH PSYCHOLOGY - Explores psychological research, theory, and techniques in health-related areas, such as health promotion, the identification of contributors to illness, illness prevention, stress and coping, stress management, changing health beliefs and behavior, pain and its management, and the management of chronic and terminal illnesses.

## PSY 368. Community Psycholgy. 3 Hours

COMMUNITY PSYCHOLOGY - The application of psychological principles to the understanding and prevention of prevalent community problems including teen pregnancy, school violence, mental illness, substance abuse, homelessness and poverty. Prerequisite(s): PSY 101.

## PSY 375. Psychlgy of the Arts. 3 Hours

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.

## PSY 410. Questionnaire Design. 3 Hours

QUESTIONNAIRE DESIGN - Students will learn about critical issues in questionnaire design and use, the advantages/disadvantages of questionnaires, types of questionnaires, questionnaire development strategies, scale selection, and how to evaluate questionnaires. Students will develop, test and evaluate a questionnaire in a domain of interest to them. Depending on the size of the effort, students may work in teams.

## PSY 422. Physiological Psy. 3 Hours

PHYSIOLOGICAL PSYCHOLOGY - Neurophysiological analysis of attention, sensation, perception, emotion, motivation, and learning. Electrophysiological methods are discussed. Prerequisite(s): PSY 101.

## PSY 431. Intervwng \& CounsIng. 3 Hours

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 roleplaying. Prerequisite(s): PSY 101.

## PSY 435. Human Factors. 3 Hours

HUMAN FACTORS - Students learn methods to improve the interface between humans and their environment. Human characteristics are studied to determine the best way to design the task, product, workstation, or other environmental features to accommodate the human. Students in the School of Engineering must have junior or senior status.

## PSY 443. Psychology of Women. 3 Hours

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(s): PSY 101.

## PSY 444. Environmtl Psychlgy. 3 Hours

ENVIRONMENTAL PSYCHOLOGY - Study of the effects of the physical and social environment on human behaviors, attitudes, and affective responses. Prerequisite(s): (PSY 101, PSY 341) or permission of instructor.

## PSY 445. Tech,Envrmnt,Behavr. 3 Hours

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.

## PSY 450. Psych for Ministry. 3 Hours

PSYCHOLOGY FOR MINISTRY - Human development and adjustment, interpersonal communication, and the psychology of religion.
Prerequisite(s): Acceptance into the Lay Ministry Program or permission of instructor.

## PSY 451. PSY of Religion. 3 Hours

PSYCHOLOGY OF RELIGION - Addresses the psychological study of the nature of religion and religious experience; explores the development of internalized beliefs, attitudes, and values and the effect they have on individual functioning. An introductory course in psychology is highly recommended. Prerequisite(s): Junior or senior standing.

## PSY 452. Cognitive Dev-Chldrn. 3 Hours

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(s): (PSY 101, PSY 351) or permission of instructor.

## PSY 457. Tv/Effects on ChIdrn. 3 Hours

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(s): PSY 101.

## PSY 461. Curr Impl-Drug Depnd. 3 Hours

CURRENT IMPLICATIONS OF DRUG DEPENDENCY - Survey of effects, symptoms, treatment, causalities, and myths associated with drug use and abuse. Emphasis on existing treatment methods and psychological implications of drug dependency. Prerequisite(s): PSY 101.

## PSY 462. Human Sexuality. 3 Hours

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.

## PSY 471. Hst of Psychology. 3 Hours

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(s): PSY 101 or permission of instructor.

## PSY 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## PSY 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## PSY 490. Internshp-Psychology. 1-6 Hours

INTERNSHIP IN PSYCHOLOGY - Supervised experience arranged on an individual basis in appropriate settings. For junior or senior psychology majors who have completed prescribed course work only. Consult internship director for details. May be repeated up to six semester hours. Grade Option Two only.

## PSY 493. Independent Study. 1-6 Hours

INDEPENDENT STUDY - Problems of special interest investigated under faculty direction. Area and criteria for evaluation to be specified prior to registration. May be repeated up to six semester hours. Prerequisite(s): Permission of instructor.

## PSY 494. Readings. 1-6 Hours

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 up to six semester hours. Prerequisite(s): Permission of instructor.

## PSY 495. Special Top-Psych. 1-3 Hours

SPECIAL TOPICS IN PSYCHOLOGY - Topics of special interest to faculty and students; intensive critical evaluation of appropriate literature. Prerequisite(s): Permission of instructor.

## PSY 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Psychology. Repeatable up to three semester hours. Corequisite(s): A 300-400 level Psychology course.

## Religious Studies

Major:

- Bachelor of Arts, Religious Studies

Minors:

- Religious Studies
- Religious Studies- Catechesis

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 traditions and with other world religious.

Students majoring in religious studies ordinarily follow one of five tracks in the major:

- Students preparing for ministry in a Christian church (e.g., pastoral associates, youth ministry, parish religious educators) follow the "Ministry" track.
- Students preparing to teach religion in elementary or secondary schools follow the "Catholic Schools" track.
- Students preparing for graduate study in Christian theology, systematics, church history, ethics, etc., follow the "Graduate School Preparation" track.
- Students preparing for graduate study of religions other than Christianity and/or interested in world religions follow the "World Religions" track.
- Students wishing to study religion as a way of broadening their horizons or who are interested in religious studies as an undergraduate major follow the "General" track.
- All religious studies majors must show basic practical communicative proficiency in one foreign language.

A minor in religious studies consists of eighteen semester hours, which includes REL 103 (or REL 198 or ASI 110). At least three semester hours are to be at the 400 -level.

A minor in Catechesis consists of nineteen semester hours, not including REL 103 (or REL 198 or ASI 110.)

## Faculty

Daniel Speed Thompson, Chairperson
Professors Emeriti: Anderson, Buby, Burns, Friedland, Hater, L'Heureux, Martin, Thimmes
Professors: Barnes, Branick, Doyle, Inglis (Philosophy), Levering, Miller, Portier, Roberts, Trollinger (History), Zukowski
Associate Professors: Bennett, Johnson, Johnston, Kallenberg, Moore, Orji, Smith, Thompson, Yocum
Assistant Professors: Bunta, Kozar, Salih
Lecturers: Diaz, Luzarraga

## Bachelor of Arts with a major in Religious Studies (rel)

## Religious Studies

| ASI 110 or REL 103 | Dev West Global Ctxt Intro to Religion | 7 |
| :---: | :---: | :---: |
| REL 490 | Capstone Seminar | 3 |
| Six REL semester hours (400 level) |  | 6 |
| Select one track from: |  |  |
| Ministry |  | 30 |
| REL 315 | The Gospels |  |
| REL 323 | Hst-Christianty I |  |
| or REL 324 | Hst-Christianty II |  |
| REL 360 | Christian Ethics |  |
| REL 437 | Significance-Jesus |  |
| REL 440 | The Church |  |
| REL 443 | The Sacraments |  |
| REL 485 | Lay Ministry |  |
| Select one course in each: Old Testament, world religions, religion and culture |  |  |

Catholic Schools ..... 30
REL 323 Hst-Christianty I
or REL 324 Hst-Christianty II
REL 327 US Religious Expr
or REL 328 US Cath Experience
or REL 329 African Amer Rel
REL 383 Phil of Rel Educ
or REL 487 Rel Ed Thry\&Prac
Select one course in each: Old Testament, New Testament, world religions, religion and culture; two courses in systematic theology

Graduate School Preparation30
REL 323 Hst-Christianty IREL 324 Hst-Christianty II
REL 437 Significance-Jesus
REL 440 The Church
or REL 443 The Sacraments

Select one course in each: Old Testament, New Testament, ethics, world religions, religion and culture, systematic theology

## World Religions

REL 323 Hst-Christianty I
or REL 324 Hst-Christianty II
Select three courses from:
REL 304 Hinduism

| REL 305 | Eastern Orthodoxy |
| :--- | :--- |
| REL 306 | Buddhism |
| REL 307 | Judaism |
| REL 308 | Islam |
| Select one course in each: Old Testament, New Testament, |  |
| ethics, systematic theology, religion and culture |  |
| REL elective |  |
| eneral |  |

General ..... 30

Select one course in each: Old Testament, New Testament, world religions, church history, systematic theology, ethics, religion and culture
REL electives

## Liberal Studies Curriculum

ASI $150 \quad$ Intr to the Univ Exp ..... 1
Communication Competencies ..... 3-9
Creative and Performing Arts ..... 3
History ..... 6
L2 Proficiency (Proficiency in a language other than English) ..... 0-11
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy ..... 9
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least1 Or equivalent course.
Minor in Religious Studies (rel)
Religious Studies
Select eighteen REL semester hours ${ }^{1}$ ..... 18 ..... 18

1 At least three semester hours at the 400 level.

## Minor in Religious Studies-Catechesis (Cte)

The Minor in Religious Studies - Catechesis (CTE) offers students an excellent opportunity to prepare to teach religion (catechesis) in Catholic schools, or parish ministry today. The minor is grounded in the official principles of catechesis required by the United States Conference of Catholic Bishops. The minor incorporates the basic courses required by most dioceses across the country for achieving diocesan certification in content, methodology and praxis experiences. It is open to all students who desire to engage in a religion teaching ministry either on a full-time professional or a volunteer basis following graduation.

| Religious Studies - Catechesis ${ }^{1}$ | 3 |  |
| :--- | :--- | :--- |
| REL 328 | US Cath Experience ${ }^{2}$ | 4 |
| Forum for Young Catechetical Leaders |  |  |
| REL 281 | Forum Cat Lead I |  |
| REL 282 | Forum Cat Lead II |  |
| REL 283 | Forum Cat Lead III |  |
| REL 284 | Forum Cat Lead IV |  |
| Select one Liturgy course from: | 3 |  |

REL $356 \quad$ Chr Tradition-Prayer

| REL 383 | Phil of Rel Educ |  |
| :---: | :---: | :---: |
| REL 443 | The Sacraments |  |
| REL 446 | Chrstn Liturgy |  |
| REL 488 | Spiritualty\&Rel Educ |  |
| Select one Scripture course from: |  | 3 |
| REL 310 | The Pentateuch |  |
| REL 311 | The Prophets |  |
| REL 315 | The Gospels |  |
| REL 318 | Studies in Paul |  |
| Select one Morality or Ethics course from: |  | 3 |
| REL 360 | Christian Ethics |  |
| REL 363 | Faith \& Justice |  |
| REL 364 | Current Moral Issues |  |
| Select one Ecclesiology or Church History course from: |  | 3 |
| REL 323 | Hst-Christianty I |  |
| REL 324 | Hst-Christianty II |  |
| REL 440 | The Church |  |
| Total Hours |  | 19 |
| 1 These hours are in addition to REL 103 (or REL 198 or ASI 110), which is usually taken in the student's first year. |  |  |

## Courses

## REL 103. Intro to Religion. 3 Hours

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. The 'Scripture Option' takes the majority of its perspectives and examples about religious beliefs and practices from scriptural traditions.

## REL 198. REL Scholars Sem. 3 Hours

RELIGIOUS STUDIES SCHOLARS' SEMINAR - Study and seminar discussion of major types of religions in history and some of their practices, values, beliefs, historical development, and theological reflection, including Catholic tradition; review of major theories on the nature, origin, and function of religion in human life. Open by permission only to first-year students in the Berry Scholars Program.

## REL 210. Intro to Scripture. 1 Hour

INTRODUCTION TO SCRIPTURE - An introductory overview of Christian scripture that is foundational for Old and New Testament online courses.

## REL 211. Intro to Old Test. 1 Hour

INTRODUCTION TO THE OLD TESTAMENT - Study of contemporary Old Testament studies to learn how to read a biblical text in terms of its literary qualities and cultural influences on interpretations.

## REL 212. Intro to New Test. 1 Hour

INTRODUCTION TO THE NEW TESTAMENT - Introduction to the New Testament with a focus on the text's cultural contexts, literary composition, theological themes, and pastoral applications.

## REL 260A. Cath Soc Teach I. 1 Hour

CATHOLIC SOCIAL TEACHING I - The first of two courses that provide background on Catholic social teaching as articulated in the Catechism of the Catholic Church and Episcopal documents.

## REL 260B. Cath Soc Teach II. 1 Hour

CATHOLIC SOCIAL TEACHING II - The second of two courses that provide background on Catholic social teaching as articulated in the Catechism of the Catholic Church and Episcopal documents. Prerequisite(s): REL 260A.

## REL 281. Forum Cat Lead I. 1 Hour

FORUM FOR CATECHETICAL LEADERS I - Study of key themes of The National Directory for Catechesis regarding 'The Tasks of Catechesis and Faith Formation'. Themes include (a) Introduction to the Catechetical Ministry of the Church, (b) The Vocation of the Catechist, (c) Faith Formation, and (d) Fundamentals for Designing Catechetical Plans. Prerequisite(s): ASI 111 or REL 103.

## REL 282. Forum Cat Lead II. 1 Hour

FORUM FOR CATECHETICAL LEADERS II - Study of key themes of The National Directory for Catechesis regarding 'The Art of Communicating Faith: Scripture and Tradition'. Themes include (a) Effective Catechesis, (b) Four Pillars of Our Catholic Faith, (c) Integrating Scripture in Catechetical Ministry, and (d) Integrating Liturgy and Liturgical Experiences in Catechetical Ministry. Prerequisite(s): ASI 111 or REL 103.

## REL 283. Forum Cat Lead III. 1 Hour

FORUM FOR CATECHETICAL LEADERS III - Study of key themes of The National Directory for Catechesis regarding: 'Liturgy, Popular Devotions, Literature and the Religious Imagination. Themes include (a) Storytelling, (b) Popular Devotions and Faith Experiences, (c) Role of Mary in Catechesis, and (d) Diverse Religious Traditions and the Quest for God. Prerequisite(s): ASI 111 or REL 103.

## REL 284. Forum Cat Lead IV. 1 Hour

FORUM FOR CATECHETICAL LEADERS IV - Study of key themes of The National Directory for Catechesis regarding: 'Discipleship (Catholic Moral Life), Catholic Social Teachings and Catechetical Planning'. Themes include (a) Developing a Pastoral Catechetical Plan, (b) Call and Challenge of Discipleship, (c) Catholic Social Teachings, and (d) Communications Technology and Catechesis. Prerequisite(s): ASI 111 or REL 103.

## REL 304. Hinduism. 3 Hours

HINDUISM - Study of the world's oldest living religion. Examines the historical development of major Hindu teachings, texts, practices and paths from ancient times to present, including forms of Hinduism taking root in the West today. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or 198).

## REL 305. Eastern Orthodoxy. 3 Hours

EASTERN ORTHODOXY - Exploration of the history and theology of the Eastern Orthodox Church, from the Apostles to Byzantium to Russia and the United States. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 306. Buddhism. 3 Hours

BUDDHISM - 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 twentieth century. Parallels and contrasts with the Christian tradition. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 307. Judaism. 3 Hours

JUDAISM - Basic introduction to Judaism: its history, its faith, its worship. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 308. Islam. 3 Hours

ISLAM - Exploration of the Islamic religious traditions: the life of Islam's founder, the development of its teaching and ritual, its spread from North Africa into Europe, Asia, Oceania, its influence on culture and its contemporary resurgence. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 309. Afro-Latin Religions. 3 Hours

AFRO-LATIN RELIGIONS - The study of Voudou, Santeria and other religions which arose when the religious traditions of West Africa were transplanted to the Americas and the Caribbean where practitioners encountered Christianity. These religions' historical and contemporary forms as well as issues of syncretism and church-state relations are considered. Prerequisite(s): ASI 111 or (REL 103 or REL 198).

## REL 310. The Pentateuch. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 311. The Prophets. 3 Hours

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 throughout. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 312. Psalms \& Wisdom Lit. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 315. The Gospels. 3 Hours

THE 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. The course includes historical-critical study of the Gospel to John, its text, literary techniques, structure and theology. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 316. New Testmnt Theolgs. 3 Hours

NEW TESTAMENT THEOLOGIES - Survey of New Testament writings with a focus on the religious ideas specific to each; special attention to authors' christology, eschatology, and soteriology; exploration of relevance of the New Testament message to Christian faith today. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 318. Studies in Paul. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 319. Book of Revelation. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 323. Hst-Christianty I. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 324. Hst-Christianty II. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 326. Protestant Christnty. 3 Hours

PROTESTANT CHRISTIANITY - Survey of the development of Protestant thought from the Reformation. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 327. US Religious Expr. 3 Hours

U.S. RELIGIOUS EXPERIENCE - Study of a variety of religious traditions in their engagement with and influence within the U.S. social and cultural context including the effects of pluralism, religious liberty, secularization, and consumer capitalism. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 328. US Cath Experience. 3 Hours

U.S. CATHOLIC EXPERIENCE - The growth and development of Catholic christianity in the U.S.; its interaction with America, its culture, and its people. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 329. African Amer Rel. 3 Hours

AFRICAN-AMERICAN RELIGION - An exploration of the history and theology of African-American religious traditions and how AfricanAmerican religion has influenced African-American social, political, economic, and cultural movements from the time of slavery to the present. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 344. Christian Marriage. 3 Hours

CHRISTIAN MARRIAGE - Analysis of the sanctifying dignity of Christian marriage as a sacrament and commitment to share in the divine creative plan. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 352. Undrstnd Sacred Mus. 3 Hours

UNDERSTANDING SACRED MUSIC AND WORSHIP IN THE LOCAL CHURCH - Focus on the important relationship between music and worship in the life of the church with an emphasis on major contemporary trends in sacred music and work. An historical overview of music and worship with biblical foundations for both are provided. Prerequisite(s): REL 103 (ASI 110/120).

## REL 356. Chr Tradition-Prayer. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 358. Liberation Theology. 3 Hours

LIBERATION THEOLOGY - Historical-critical analysis and study of the theology of liberation and its specific expression among theologians of the Third World, particularly Latin America. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 360. Christian Ethics. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 362. Chr Famly Values\&TV. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 363. Faith \& Justice. 3 Hours

FAITH AND JUSTICE - This course explores the history, development, and basic principles of Catholic social teaching as well as other approaches to faith and justice. Issues of economic justice will receive special emphasis. In addition to church documents, the life and work of religious thinkers and activists will be examined. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 364. Current Moral Issues. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 365. Chr Ethics\&Environ. 3 Hours

CHRISTIAN ETHICS AND THE ENVIRONMENT - Christian ethic of relationality and responsibility. Explores various approaches and related values found in society; elements of ethical judgments; and specific ethical issues resulting from ecofeminist, technological, and ecological awareness. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 366. The Holocaust. 3 Hours

THE HOLOCAUST: THEOLOGICAL AND RELIGIOUS RESPONSES Examination of the religious and theological literature of the Holocaust, focusing especially on Jewish and Christian responses. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 367. Chr Ethics\&HIth Care. 3 Hours

CHRISTIAN ETHICS AND HEALTH CARE ISSUES - Study of, and reflection upon, the principles of Christian ethics as these relate to the health care professions. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 368. Chr Ethics\&Bus World. 3 Hours

CHRISTIAN ETHICS AND THE BUSINESS WORLD - Study of, and reflection upon, the principles of Christian ethics as these relate to the business world. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 369. Chrstn Ethics \& Engr. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 372. Religion \& Film. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 373. Religion\&Literature. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 374. Religion \& the Arts. 3 Hours

RELIGION AND THE ARTS - Investigation of the religious interpretation of various art forms and the process by which the aesthetic experience assists in theological perception and construction. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 375. Religion \& Science. 3 Hours

RELIGION AND SCIENCE - Surveys of the ways science has affected religion on specific doctrines, methods of knowing what is true, and general world views; study of religious response to these. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 376. Theol\&Soc Sciences. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 377. In Jrny:Myth,Bibl\&Lt. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 383. Phil of Rel Educ. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 399. Rdgs in Rel Studies. 1-3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 425. Augustine. 3 Hours

AUGUSTINE - The life and work of Augustine of Hippo (354-430), a major theologian of Western Christianity. His influence is strongly felt in both Protestant and Catholic traditions in areas of sexual ethics, churchstate relations, Trinitarian and sacramental theology. Prerequisite(s): REL 103.

## REL 429. Modern Catholicism. 3 Hours

MODERN CATHOLICISM - An examination of Modern Catholicism based on a close study of the context, process, decisions, implementation, and challenges of Vatican II in the Roman Catholic Church. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 437. Significance-Jesus. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 440. The Church. 3 Hours

THE CHURCH - 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. Prerequisite(s): (ASI 111, 112 or equivalent) or (REL 103 or 198).

## REL 441. Theology of Mary. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 442. God and Atheism. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 443. The Sacraments. 3 Hours

THE SACRAMENTS - 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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 444. God-Christn Tradtn. 3 Hours

GOD IN CHRISTIAN TRADITION - Review of theologies of God in Christian tradition, from biblical through contemporary sources, especially as these theologies have affected overall Catholic thought and spirituality. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198); PHL 103.

## REL 446. Chrstn Liturgy. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 447. Sel Cath Doctrines. 3-4 Hours

SELECTED CATHOLIC DOCTRINES - Detailed study of several important current theological questions primarily from a Catholic systematic and historical perspective. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 449. Aquinas. 3 Hours

AQUINAS - Theology of Aquinas including: Trinity, human nature, providence, grace, virtue, Christ, and sacraments. Some attention given to historical context and contemporary interpretation, but the main focus will be reading and understanding the Summa. Prerequisite(s): REL 103.

## REL 471. Women and Religion. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 472. Ecology \& Religion. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 474. Women-Global Church. 3 Hours

WOMEN AND THE GLOBAL CHURCH - An exploration of the intersection between faith communities, traditional and nontraditional, and particular cultures in the lives of contemporary women. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## REL 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## REL 484. Practicum. 3 Hours

PRACTICUM - Supervised in-service experience in an area of religious education chosen by the student. By permission only. Prerequisite(s):
(ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 485. Lay Ministry. 3 Hours

LAY MINISTRY - 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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 487. Rel Ed Thry\&Prac. 3 Hours

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. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 488. Spiritualty\&Rel Educ. 3 Hours

SPIRITUALITY AND RELIGIOUS EDUCATION - Exploration of impact of liturgy and spirituality on contemporary models of religious education; study of interrelationship between faith experience and religious content; basic principles for developing practical programs. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

## REL 490. Capstone Seminar. 3 Hours

CAPSTONE SEMINAR - Study of a particular topic in religion or theology that draws upon a variety of resources in the fields. This course provides an integrative academic experience. Topic varies from semester to semester. Required of all majors, open to minors. May be repeated. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198); junior or senior standing.

## REL 492. Special Topics. 1-3 Hours

SPECIAL TOPICS - Concentrated study of issues and subjects pertinent to religion. May be repeated when topic changes. Prerequisite(s): (ASI 111, ASI 112 or equivalent) or (REL 103 or REL 198).

# Sociology, Anthropology, and Social Work 

Major:

- Bachelor of Arts, Sociology

Minors:

- Sociology
- Anthropology
- Social Work

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. The sociology major program is also offered in India in conjunction with the Marianists. The requirements for majoring in sociology are stated in the outline below. Criminal justice studies is also one of the majors listed in this department. View CJS program requirements.
The minors in sociology, anthropology, and social work consist of fifteen semester hours. The minor in criminal justice studies consists of eighteen semester hours.

## Faculty

Laura M. Leming, F.M.I., Chairperson
Professors: Curran, Davis-Berman, Donnelly, L. Majka, T. Majka, Miller Associate Professors: Becker, Jipson, Leming, Picca
Assistant Professors: Cassiman, Dasgupta, Forbis, Longazel, ThompsonMiller
Lecturers: Holcomb, Kim, Litka

## Bachelor of Arts with a major in Sociology (soc)

| Sociology |  |  |
| :--- | :--- | :---: |
| SOC 101 | Prin of Sociology | 3 |
| or SOC 204 | Mod Social Problems |  |
| SOC 208 | Social Resrch Methds | 3 |
| SOC 303 | Modern Social Theory | 3 |
| SOC 308 | Data Analysis | 3 |
| SOC 351 | Urban Sociology | 3 |
| SOC 408 | Sr Project Design | 1 |
| SOC 409 | Senior Project | 3 |
| Select six SOC courses ${ }^{1}$ | 18 |  |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies | $3-9$ |  |
| Creative and Performing Arts | 3 |  |
| History |  | 6 |
| L2 Proficiency | (Proficiency in a language other than English) | $0-11$ |


| Literature | 3 |
| :--- | :---: |
| Mathematics (excluding MTH 102, 204, 205) | 3 |
| Natural Sciences | 11 |
| Philosophy and Religious Studies | 12 |
| Social Sciences (excludes SOC courses) | 12 |
| Total Hours - general education courses/academic electives to total | 124 |
| at least |  |
| 1 | A total of no more than six semester hours of field experience or |

## Minor in Anthropology (ant)

Anthropology is the study of people at all times and places. It emphasizes understanding total cultural systems. A minor in anthropology consists of fifteen semester hours. Students intending to minor in anthropology should consult with the department chairperson to plan their selection of courses.

## Anthropology

| ANT 150 | Cultural Anthropolgy | 3 |
| :--- | :---: | :---: |
| Select four ANT courses (300/400 level) | 12 |  |
| Total Hours | 15 |  |

## Minor in 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 fifteen semester hours.

| Social Work $^{1}$ |  |
| :--- | :--- |
| Select fifteen SWK semester hours $^{2}$ | 15 |
| Total Hours | 15 |

1 No more than six semester hours of field experience credit can be accepted toward the minor. The field experience course requires students to take or have taken SWK 201, Social Work Practice.
2 At least twelve semester hours at the 300/400 level.

## Minor in Sociology (soc)

| Sociology |  |
| :--- | :--- |
| Select fifteen SOC semester hours ${ }^{1}$ | 15 |

Total Hours ..... 15

1 At least twelve semester hours at the 300/400 level.

## Anthropology Courses

ANT 150. Cultural Anthropolgy. 3 Hours
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.

ANT 300. Evolutn-People\&Cultr. 3 Hours
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.

## ANT 306. Culture and Power. 3 Hours

CULTURE AND POWER - Exploration of how culture and power are intertwined in the process of transformation of cultural beliefs and practices around the world. Focus on the ways in which anthropologists have studied modern state formation, and the attendant cultural politics, in local, regional, national, and international contexts. Prerequisite(s): ANT 150.

## ANT 310. Culture \& Personalty. 3 Hours

CULTURE AND PERSONALITY - Survey of studies investigating the relationship between cultural environment and the individual. Material drawn from both literate and nonliterate societies.

## ANT 315. Language and Culture. 3 Hours

LANGUAGE AND CULTURE - Introduction to the scientific study of language and its relationship to other aspects of human behavior.

## ANT 320. Anthro of Childhoods. 3 Hours

ANTHROPOLOGY OF CHILDHOODS - Survey of anthropology research on issues related to children and childhood. Cross-cultural comparison of changing conceptions and varied experiences of the developmental stage known singularly as 'childhood', with a special emphasis on children as social agents and childhoods as lived experiences. Prerequisite(s): ANT 150.

## ANT 325. Anth of Human Rights. 3 Hours

ANTHROPOLOGY OF HUMAN RIGHTS - An overview of anthropological approaches to human rights, weighing human rights universals against situations of cultural particularity. Prerequisite(s): ANT 150.

## ANT 335. Urban Anthropology. 3 Hours

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.

ANT 336. Epidemcs,Pwr\&HmnCnd. 3 Hours
EPIDEMICS, POWER AND THE HUMAN CONDITION - Epidemics, Power and the Human Condition.

ANT 352. Cultures-Lat America. 3 Hours
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.

## ANT 356. Cultures of Africa. 3 Hours

CULTURES OF AFRICA - Examination of Africa through the lens of anthropology. Exploration of late colonial and postcolonial eras, with a focus on gender, kinship, ethnicity, politics, religion, and prospects for the future. Consideration of the production of knowledge about and dominant representations of Africa. Prerequisite(s): ANT 150.

## ANT 360. Cultures-South Asia. 3 Hours

CULTURES OF SOUTH ASIA - Examination of South Asia through the lens of anthropology. Explores the postcolonial era, South Asia's dynamic religious traditions, the study of caste, 'Bollywood' and popular cultures, Hindu nationalism, and the South Asian diaspora in the West.

## ANT 368. Immigration. 3 Hours

IMMIGRATION AND IMMIGRANTS - Perspectives on immigration and ethnicity. Studies of social and economic adaptation of new immigrants and the second generation in communities, cities, and societies. Ethnic change, conflict, and contemporary national and international issues, with an emphasis on human rights. (Same as SOC 368.) Prerequisite(s): (SOC 101 or SOC 204) or ANT 150.

## ANT 392. Sp Topics-ANT. 1-6 Hours

SPECIAL TOPICS IN ANTHROPOLOGY - Intensive examination of current thematic, theoretical, or methodological issues from the viewpoint of anthropology. May be repeated as topics change. Prerequisite(s): ANT 150; permission of instructor.

## ANT 449. Anthrop Field Work. 1-6 Hours

ANTHROPOLOGICAL FIELD WORK - Formulation and carrying out of a research design in archaeology, physical anthropology, linguistics, or cultural anthropology. Prerequisite(s): Permission of instructor.

## ANT 477. Honors Thesis. 3 Hours

HONORS THESIS - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## ANT 478. Honors Thesis. 3 Hours

HONORS THESIS - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## ANT 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Anthropology. Repeatable up to three semester hours. Prerequisite(s): Permission of instructor. Corequisite(s): A 300-400 level Anthropology course.

## ANT 498. Independent Study. 1-6 Hours

INDEPENDENT STUDY - Research problems or readings of special interest investigated under the guidance of an anthropology staff member. Prerequisite(s): Permission of department chairperson.

## Social Work Courses

SWK 201. SWK-Prac and Prof. 3 Hours
SOCIAL WORK PRACTICE AND PROFESSION - Study of the historical and theoretical underpinnings of the social work profession. Study of social work practice theory and technique.

SWK 303. Commty Prac\&Rsrch. 3 Hours
SWK 305. Soc Ser Health Field. 3 Hours
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.

## SWK 307. Mental Health Serv. 3 Hours

MENTAL HEALTH SERVICES - Study of historical perspectives, deinstitutionalization, the community mental health movement, inpatient care, and innovative approaches. Policy and practice implications are examined.

## SWK 310. Law \& Human Services. 3 Hours

## SWK 325. Child Abuse. 3 Hours

CHILD ABUSE - Comprehensive study of child abuse: its history, scope, causal factors, indicators for detection, treatment resources and modalities, and community responsibility.

## SWK 327. Parentng:Soc Welfare. 3 Hours

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.

## SWK 330. Perspectves on Agng. 3 Hours

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.).

## SWK 331. Death,Dying\&Suicide. 3 Hours

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.

## SWK 335. SWK \& Envir Justice. 3 Hours

SOCIAL WORK AND ENVIRONMENTAL JUSTICE - Study of the impact of environmental degradation upon individuals and communities and the role of social work in advocating for environmental justice. Topics include health, disasters, environmental degradation, human rights, and advocacy.

## SWK 360. International Soc Wrk. 3 Hours

INTERNATIONAL SOCIAL WORK - Study of the role of social workers in international contexts. Topics include migration, globalization, development, conflict, and the ethical implications of social workers practicing internationally.

## SWK 370. Social Welfare Policy. 3 Hours

SOCIAL WELFARE POLICY - Study of U.S. social welfare policy and its impact upon populations of interest to social workers and other helping professionals. Topics include history of social welfare policy, ideologies that inform social welfare policy, attention to the gendered nature of social policy, international social welfare policy, contemporary policy debates and the role of social workers and allies in the policy arena.

## SWK 392. Special Topics. 1-3 Hours

## SWK 401. Community Field Exp. 5 Hours

COMMUNITY FIELD EXPERIENCE - Supervised field experience for students working in a micro or macro practice setting. Concurrent seminar includes intensive basic communication and interviewing skill development. Students spend 150 hours in the agency. Prerequisite(s): SWK 201; permission of instructor.

## SWK 465. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Individual research, study, and readings on specific topics and/or projects of importance to social work. Under individual faculty direction. Prerequisite(s): Permission of instructor.

## SWK 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with department chairpersons. Prerequisite(s): Approval of University Honors Program.

## SWK 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## SWK 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Social Work. Repeatable up to three semester hours. Prerequisite(s): Permission of instructor. Corequisite(s): A 300-400 level Social Work course.

## Sociology Courses

## SOC 101. Prin of Sociology. 3 Hours

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.

SOC 204. Mod Social Problems. 3 Hours
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.

SOC 208. Social Resrch Methds. 3 Hours
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. Prerequisite(s): SOC 101 or SOC 204.

SOC 303. Modern Social Theory. 3 Hours
MODERN SOCIAL THEORY - Consideration of the works of modern theorists and major trends in the history of social thought. Prerequisite(s): SOC 101 or SOC 204.

SOC 305. Criminological Thry. 3 Hours
CRIMINOLOGICAL THEORY - Study of the major theories of crime; consideration of the implications of theory for the criminal justice system. Prerequisite(s): SOC 101 or SOC 204.

SOC 308. Data Analysis. 3 Hours
DATA ANALYSIS - The analysis and interpretation of both quantitative and qualitative social science data. Prerequisite(s): SOC 208.
Corequisite(s): SOC 308L.

## SOC 308L. Data Analysis Lab. 1 Hour

DATA ANALYSIS LABORATORY - Training in appropriate computer programs and computer analysis of social science data. Prerequisite(s): SOC 208. Corequisite(s): SOC 308.

## SOC 309. Commty Prac\&Rsrch. 3 Hours

COMMUNITY PRACTICE AND RESEARCH - Study of the design and implementation of community research, including needs assessment and program evaluation in the social service system. (Same as SWK 303.) Prerequisite(s): SOC 101 or SOC 204; permission of instructor.

## SOC 321. Soc of Work\&Occuptns. 3 Hours

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.

## SOC 322. Sex Roles \& Society. 3 Hours

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.

## SOC 323. Juvenile Justice. 3 Hours

JUVENILE JUSTICE - 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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 325. Deviant Behavior. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 326. Law \& Society. 3 Hours

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.

## SOC 327. Criminology. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 328. Racial\&Eth Minorties. 3 Hours

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.

## SOC 330. Perspctves-Agng. 3 Hours

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.).

## SOC 331. Marriage \& Family. 3 Hours

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.

## SOC 332. Sociology of Women. 3 Hours

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.

## SOC 333. Soc of Sexualities. 3 Hours

SOCIOLOGY OF SEXUALITIES - Examination of theoretical and conceptual issues, empirical research and social policies germane to the sociological study of human sexuality. Topics include: sexual identity and orientation; sexuality throughout the life-course; sexual assault and coercive sexuality; social control of sexuality; social locations (race, class, and gender) and sexuality; and the relationship between sexuality and the socio-political process. Prerequisite(s): SOC 101 or SOC 204.

## SOC 334. Religion \& Society. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 336. Orgnztn-Mod Society. 3 Hours

ORGANIZATIONS IN MODERN SOCIETY - Analysis of the dynamics of organizations in modern industrial society. Organizational social psychology, organizational structure and process, and organizationcommunity relations. Prerequisite(s): SOC 101 or SOC 204.

## SOC 337. Political Sociology. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 339. Social Inequality. 3 Hours

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.

## SOC 340. Soc Psych-Society. 3 Hours

SOCIAL PSYCHOLOGY IN SOCIETY - Survey of the basic principles, concepts, theories, and methods of social psychology from the sociological perspective. Prerequisite(s): SOC 101 or SOC 204.

## SOC 341. Self \& Society. 3 Hours

SELF AND SOCIETY - Study of the relationship between self and others. Socialization, self conceptions, deviant behavior, social influence, and social control.

## SOC 342. Collective Behavior. 3 Hours

COLLECTIVE BEHAVIOR - Study of social protest, crowds, social movements, revolution, fads, fashion, public opinion processes, propaganda, and political and social responses to these phenomena. Prerequisite(s): SOC 101 or SOC 204.

## SOC 343. Mass Comm-Mdrn Socty. 3 Hours

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.

## SOC 344. Interactn Processes. 3 Hours

INTERACTION PROCESSES - Study of the interaction processes of social life. Bargaining and negotiation, cooperation, social influence, solidarity, competition, and conflict. Prerequisite(s): SOC 101 or SOC 204.

## SOC 345. Soc of Extremism. 3 Hours

SOCIOLOGY OF EXTREMISM - Study of the social understanding and social construction of identity, otherness, difference, and extremism in such cases as the development of white racial extremism in the United States. Prerequisite(s): SOC 101 or SOC 204.

## SOC 348. Crime,Film\&Society. 3 Hours

CRIME, FILM, AND SOCIETY - This course will examine the portrayal of crime and justice in feature length films and how these films influence how our society views issues related to crime. The primary focus will be on the American criminal justice system (law enforcement, courts, and corrections) and the broader topic of justice. Prerequisite(s): (SOC 101 or SOC 204) or CJS 101 or permission of instructor.

## SOC 351. Urban Sociology. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 352. Community. 3 Hours

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.

## SOC 353. Internet Community. 3 Hours <br> INTERNET COMMUNITY - Internet Community.

## SOC 354. Persp on Childhood. 3 Hours

PRESPECTIVE ON CHILDHOOD - Prespective on Childhood.

## SOC 355. Famlies\&The Economy. 3 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 368. Immigration. 3 Hours

IMMIGRATION AND IMMIGRANTS - Perspectives on immigration and ethnicity. Studies of social and economic adaptation of new immigrants and the second generation in communities, cities, and societies. Ethnic change, conflict, and contemporary national and international issues, with an emphasis on human rights. (Same as ANT 368.) Prerequisite(s): (SOC 101 or SOC 204) or ANT 150.

## SOC 371. Soc of Human Rights. 3 Hours

SOCIOLOGY OF HUMAN RIGHTS - Examination of theories, research, and social policies pertinent to the sociological study of human rights. Topics include: progress and challenges in the evolution and application of human rights norms; global stratification, poverty and human development; social locations (race, class, gender, and age) and human rights; the relationship between human rights and development; and social movements and human rights promotion. Prerequisite(s): (SOC 101 or SOC 204) or permission of instructor.

## SOC 392. Sel Topics-SOC. 1-6 Hours

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. Prerequisite(s): SOC 101 or SOC 204.

## SOC 394. Popular Culture. 3 Hours

POPULAR CULTURE IN SOCIETY - Introduction to an understanding of the collective behavior and structured activities of the popular culture and entertainment industry, the nature of musical choice, television, radio, Internet, genres and styles, distribution, performance, and the social construction of culture from a sociological perspective. Prerequisite(s): SOC 101 or SOC 204.

## SOC 398. Soc Sci Scholrs Sem. 3 Hours

SOCIAL SCIENCE SCHOLARS' SEMINAR - Study and seminar discussion of selected sociological writings and the analysis, interpretation and criticism of these works. Open only to students in the Berry Scholars Program. Prerequisite(s): ENG 198; HST 198.

## SOC 408. Sr Project Design. 1 Hour

SENIOR PROJECT DESIGN - Preparation for sociology capstone course with a focus on a workable research topic, literature review, and research methods design. Required for Sociology majors. Prerequisite(s): SOC 303, SOC 308.

## SOC 409. Senior Project. 3 Hours

SENIOR PROJECT - Capstone experience for sociology majors consisting of a seminar on research and writing in sociology, an empirical research project of the student's choosing, and a written and oral presentation of the research. Prerequisite(s): SOC 408.

## SOC 410. Victimology. 3 Hours

VICTIMOLOGY - The study of victimization including the relationships between victims and offenders, the interactions of victims and the criminal justice system and other social groups and institutions. Prerequisite(s): SOC 101 or SOC 204; 12 hours of course work in the social sciences.

## SOC 426. Ldrshp-Communities. 3 Hours

LEADERSHIP IN BUILDING COMMUNITIES - Investigation of the processes by which urban neighborhoods develop themselves from the inside out. Students cultivate their own interdisciplinary appreciation of urban communities through extensive interaction with one neighborhood's visioning process. Topics include asset-based community development, social capital, citizenship, adaptive leadership, and community building strategies and tools. Same as POL 426. Prerequisite(s): Junior standing.

## SOC 432. Struct of Privlege. 3 Hours

STRUCTURES OF PRIVILEGE - Study of the theoretical and conceptual issues, empirical research, and social policies germane to the sociological analysis of privilege. Topics include whiteness, men and masculinities, class-privilege, heterosexuality and heterosexism, and intersectionality. Prerequisite(s): SOC 101 or SOC 204.

## SOC 435. Soc of Globalization. 3 Hours

ECONOMY AND SOCIETY - Sociological analysis of modern economic institutions, with an emphasis on classical themes. Topics include capitalism, industrialism and social consequences of contemporary economic trends. Empirical research will be required. Prerequisite(s): SOC 101 or SOC 204; permission of instructor.

## SOC 437. Marx \& Sociology. 3 Hours

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(s): SOC 101 or SOC 204; junior or senior standing.

## SOC 438. Urban Poverty. 3 Hours

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. Prerequisite(s): SOC 101 or 204.

## SOC 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## SOC 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## SOC 492. Special Topics-Soc. 1-6 Hours

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(s): SOC 101 or SOC 204; permission of instructor.

## SOC 495. Sociology Internship. 1-6 Hours

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 six semester hours. Prerequisite(s): Permission of department chairperson.

## SOC 497. Service Learning Exp. 1 Hour

SERVICE LEARNING EXPERIENCE - Supervised community research or service experience that complements a specific upper division course in Sociology. Repeatable up to three semester hours. Prerequisite(s): Permission of instructor. Corequisite(s): A 300-400 level Sociology course.

## SOC 498. Independent Study. 1-6 Hours

INDEPENDENT STUDY - Research or special readings on problems of interest to the student under the guidance of sociology staff member. Prerequisite(s): Permission of department chairperson.

## Sustainability, Energy and Environment

The minor in Sustainability, Energy and the Environment (SEE) is a multidisciplinary effort to encourage students to explore complex societal sustainabilty issues that do not fit easily into one traditional academic discipline. The genesis of this program lies in the realization that a scientific and technical knowledge of environmental, ecological and energy system challenges will not be sufficient to develop viable answers. Many disciplines at the University make contributions to these issues, ranging from ethical, spiritual and artistic, to economic, political and sociological approaches. Students will be introduced to the minor through a seminar-style course, will take at a minimum two further team-taught and interdisciplinary courses, and will gain experience in interdisciplinary research.

Students desiring to minor in sustainability, energy and environment should notify the coordinator of sustainability, energy and environment.

Sustainability, Energy and Environment Advisory Committee Robert Brecha (Physics), Coordinator<br>Cassiman (Social Work), Fouke (Philosophy), Hallinan (Mechanical Engineering), Jablonski (Marianist Environmental Education Center and Religious Studies), Kwon (Visual Arts), McEwan (Biology), Pautz (Political Science), Potter (English), Wu (Geology)

## Minor in Sustainability, Energy and Environment (see)

| Sustainability,Energy and Environment <br> SEE 250 <br> Select two or three core courses from: |
| :--- |
| ASI 320 Cities and Energy <br> ASI 322 Cities and Suburbs <br> or ASI 323 Cities and Suburbs <br> or ASI 324 Cities and Suburbs <br> SEE 301 Glbl Chng\&Erth Sys ${ }^{1}$ <br> SEE 303 Constructns of Place |

Select one depth option from: 6
SEE 401 Sustnblty Research I
\& SEE 402 and Sustnblty Resrch II ${ }^{2}$
Two courses approved by SEE coordinator
Select one SEE depth course from above
Total Hours 18

1 Required for students not majoring in natural science.
2 SEE 477 and SEE 478 (Honors Thesis) may substitute for SEE 401 and SEE 402.

## Courses

## SEE 250. Intr-Sustn Ergy\&Envr. 3 Hours

INTRODUCTION TO SUSTAINABILITY, ENERGY AND THE ENVIRONMENT - Emphasis on learning how to view complex issues from different disciplinary points of view, developing reading and critical thinking skills about current issues in sustainability, gaining an awareness of different ethical positions and how these influence the quest for solutions, and learning how scientific and sociopolitical processes work to investigate and address sustainability issues.

## SEE 301. Glbl Chng\&Erth Sys. 3 Hours

GLOBAL CHANGE AND EARTH SYSTEMS - Multidisciplinary introduction to the science of the earth system. Focus is on the interrelatedness of geological, biological, chemical and physical processes, and on methods used to understand both the past natural history and potential future scenarios for change in the earth system. Corequisite(s): BIO 101, SCI 230, or equivalent.

## SEE 303. Constructns of Place. 3 Hours

CONSTRUCTIONS OF PLACE - Multidisciplinary, arts-based course that explores the complex connections between our sense of place and the physical and environmental conditions that influence landscapes and communities.

## SEE 401. Sustnblty Research I. 3 Hours

SUSTAINABILITY RESEARCH I - Interdisciplinary exploration of the issues of sustainability. The scientific, moral, spiritual, social, political, historical, ethical and economic dimensions of sustainability will be explored. Will also provide exploration of the foundations of ethical theory and their application to environmental issues. Students will pursue a research project with the primary focus of sustainability on campus. Prerequisite(s): PHL 103; completion of General Education Natural Science Requirements; junior or senior standing.

## SEE 402. Sustnblty Resrch II. 3 Hours

SUSTAINABILITY RESEARCH II - An interdisciplinary exploration of the issues of sustainability as they affect the Dayton community. Course will also explore political philosophy and the ethical foundations of public policy. Students will choose an in-depth community-based research project. Prerequisite(s): PHL 103; completion of General Education Natural Science Requirements; junior or senior standing.

## SEE 477. SEE-Honors Thesis. 3 Hours

SUSTAINABILITY, ENERGY AND ENVIRONMENT HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with department chairpersons. Prerequisite(s): Approval of University Honors Program.

## SEE 478. SEE-Honors Thesis. 3 Hours

SUSTAINABILITY, ENERGY AND ENVIRONMENT HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## Theatre

## Major:

- Bachelor of Arts, Theatre

Minor:

- Theatre

A major in Theatre (THR), offered by the Department of Communication, provides a solid academic foundation plus the experience of working in a wide range of theatre productions, including mainstage productions in the Boll Theatre as well as experimental work in the Studio Theatre.

Theatre majors are required to audition for roles and participate in each mainstage production, for which they receive credit in THR 100 or THR 300.

A minor in theatre consists of twenty-one semester hours. Courses in dance are not included.
The Department of Communication also offers a concentration in THR (CTR).

## Faculty

Jonathan A. Hess, Chairperson, Department of Communication Professor Emeritus: Gilvary
Associate Professor: Anderson
Assistant Professor: Dunlevy
Lecturer: Beran

## Bachelor of Arts with a major in Theatre (thr)



## Minor in Theatre (thr)

Theatre
THR 105 Intro to Theatre 3
THR $415 \quad$ Hst of the Theatre I 3
or THR $425 \quad$ Hst of Theatre II

| Select fifteen THR semester hours ${ }^{1}$ | 15 |
| :--- | ---: |
| Total Hours | 21 |
| 1 | Nine semester hours must be at the $300 / 400$ level. Elected |
| coursework in dance within the minor is limited to one two-semester |  |
| hour course. Coursework in THR 100 and/or THR 300 is limited to a |  |
| maximum of three semester hours within the minor. |  |

## Courses

## THR 100. Theatre Lab. 1-3 Hours

THEATRE LABORATORY - Credit allowance for role playing and/or play production in mainstage productions. Fifty hours of work minimum for one semester hour of credit. Repeatable up to three semester hours in first and second years. All registration retroactive. No advance registration.

## THR 105. Intro to Theatre. 3 Hours

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.

## THR 201. Basic Dance. 2-3 Hours

BASIC DANCE FOR THE PERFORMING ARTIST - Beginning course in movement introducing the basic principles of dance and performance technique. Open to all University students.

## THR 202. Stage Makeup. 2 Hours

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.

## THR 203. Technical Productn. 3 Hours

TECHNICAL PRODUCTION - Introductory survey of scene design, construction, painting, and lighting. Current theory will be examined along with practical applications and techniques.

## THR 206. Stage Management. 2 Hours

STAGE MANAGEMENT - Study of methods and standards of stage management in the theatre. Emphasis on organizational and management practices common to most theatres. Development of skills in applying methods of stage management.

## THR 251. Beginning Tap Dance. 2 Hours

BEGINNING TAP DANCE - Beginning course in the theory and practice of tap dance.

## THR 261. Beginning Jazz Dance. 2-3 Hours

BEGINNING JAZZ DANCE - Beginning course in the theory and practice of jazz dance.

## THR 271. Beginning Ballet. 2-3 Hours

BEGINNING BALLET - Beginning course in the theory and practice of classical ballet technique.

THR 300. Theatre Lab. 1-3 Hours
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.

## THR 301. Intermediate Dance. 2 Hours

INTERMEDIATE DANCE FOR THE PERFORMING ARTIST -
Intermediate-level course in movement for students interested in further developing dance and performance technique. Prerequisite(s): Permission of department chairperson.

## THR 303. Scene Painting. 3 Hours

SCENE PAINTING - Basic prinicples of color paint theory and materials. Investigation of various scene-painting techniques. One three-hour class meeting weekly. Prerequisite(s): Permission of department chairperson.

## THR 305. Theatre Stagecraft. 3 Hours

THEATRE STAGECRAFT - Study and application of scene construction, rigging, backstage organization, production analysis, and techniciandesigner relationship.

## THR 307. Theatre Lighting. 3 Hours

THEATRE LIGHTING - Study and application of lighting for the stage: instruments, controls, sources, elements of electricity, and lighting design for all types of theatres, as well as graphic representation.

## THR 310. Acting I. 3 Hours

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. Required of all theatre majors.

## THR 312. Acting-Film \& TV. 3 Hours

FILM AND TV ACTING - The study and practice of basic techniques of acting for film and television. Emphasis on technical requirements of acting for the camera and the control of body and voice actors must exercise in these media. Prerequisite(s): THR 310.

## THR 320. Stage Mvmt \& Voice. 3 Hours

MOVEMENT AND VOICE FOR THE STAGE - An integrated approach to the study of stage movement and voice production for the theatre.

## THR 323. Acting II. 3 Hours

ACTING II - Further study and practice of techniques introduced in Acting I. Emphasis on interaction, ensemble, group processes, and scene study. Prerequisite(s): (THR 105, 310) or permission of department chairperson.

## THR 325. Thry\&Crtcsm Stage: I. 3 Hours

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. THR 325 or 326 required of all THR majors. Prerequisite(s): THR 105.

## THR 326. Thry\&Crtcsm stage:II. 3 Hours

THEORY AND CRITICISM OF THE STAGE II - Continuation of THR 325 from romantic to modern periods. Prerequisite(s): THR 105.

## THR 330. Concepts Scene Desgn. 3 Hours

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.

## THR 340. Director-Theatre. 3 Hours

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. Prerequisite(s): THR 105, THR 310, THR 330.

## THR 344. Act/Dir-Musical Thr. 3 Hours

ACTING/DIRECTING FOR MUSICAL THEATRE - Study of performance and directing techniques for Musical Theatre. Studio fee.

## THR 350. Theatre Styles. 3 Hours

## THR 351. Intermed Tap Dance. 2 Hours

INTERMEDIATE TAP DANCE - Intermediate course in the theory and practice of tap dance.

## THR 361. Intermed Jazz Dance. 2 Hours

INTERMEDIATE JAZZ DANCE - An intermediate course in the theory and practice of jazz dance and technique. Prerequisite(s): Permission of department chairperson.

## THR 370. Topics in Theatre. 1-6 Hours

TOPICS IN THEATRE STUDY - Study of special topics or themes in theatre performance and production. May be repeated as topics change. Prerequisite(s): Permission of department chairperson.

## THR 371. Intermediate Ballet. 2 Hours

INTERMEDIATE BALLET - Intermediate course in the theory and practice of classical ballet technique. Prerequisite(s): Permission of department chairperson.

## THR 414. Adv Scene Design. 3 Hours

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. Prerequisite(s): THR 330; permission of department chairperson.

## THR 415. Hst of the Theatre I. 3 Hours

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 THR 425 required of all majors.).

## THR 424. Play Directing. 3 Hours

PLAY DIRECTING - Study of the evolution of the modern director. Emphasis is on script interpretation as a basis for the development and execution of the production concept. Prerequisite(s): THR 340.

## THR 425. Hst of Theatre II. 3 Hours

HISTORY OF THE THEATRE II - Continuance of 415 from the Italian Renaissance to the modern theatre. (THR 415 or THR 425 required of all majors.).

## THR 440. Prob Thr Prod\&Design. 3 Hours

PROBLEMS IN THEATRE PRODUCTION AND DESIGN - Individual research and project work of student's selection under the direct supervision of faculty. (THR 440 or THR 485 or THR 490 required of all majors.) Repeatable up to twelve semester hours. Prerequisite(s): Permission of department chairperson.

## THR 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## THR 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## THR 485. Theatre Seminat. 3-6 Hours

THEATRE SEMINAR - Concentration on one theatrical figure, genre period, or discipline for research and analysis. (THR 440 or THR 485 or THR 490 required of all majors.) Repeatable up to six semester hours. Prerequisite(s): Permission of department chairperson.

## THR 490. Spec Prob Theatre. 3-5 Hours

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 440 or THR 485 or THR 490 required of all majors.) Repeatable up to nine semester hours.

## THR 498. Theatre Internship. 1-3 Hours

THEATRE INTERNSHIP - Theatre work experience with an approved organization. Student must be in good academic standing with at least twelve hours of theatre courses completed. Student may petition the head of the Theatre Program for a second internship if the second internship is at a different organization and the student can demonstrate that the second internship offers a unique and signifcant educational opportunity not available through the first internship. Permission. Grading Option Two only.

## Visual Arts

## Majors:

- Bachelor of Arts, Art History
- Bachelor of Arts, Visual Arts
- Bachelor of Fine Arts, Art Education
- Bachelor of Fine Arts, Fine Arts
- Bachelor of Fine Arts, Graphic Design
- Bachelor of Fine Arts, Photography

Minors:

- Art History
- Fine Arts
- Graphic Design
- Photography
- Visual Arts

The Department of Visual Arts provides quality education in the areas of art education, art history, fine art studio, photography, visual arts, and visual communication design. The Department cultivates high standards for creativity, craft, conceptual understanding, critical analysis, historical scholarship, and pedagogy. Central to these pursuits are the artistic practice and scholarly research of faculty, the dedication of support staff to the department's educational objectives, and engaged teaching, learning, and scholarship. The Department of Visual Arts is a thriving learning community grounded in the Marianist tradition of educating the
whole person. It is fully integrated with the College and the University and contributes significantly to our institutional commitment to excellence.

The department offers the following degrees:

## Bachelor of Arts Degree (B.A.)

The Bachelor of Arts (B.A.) is intended for those interested in a broad liberal arts education as an overarching part of their chosen major (Art History, Visual Arts). Approximately forty percent of the degree requirements are taken in the creation and study of visual arts particular to the chosen major. With this degree option it is possible for students to earn a minor, or even a second major, in another university offered discipline.

## Bachelor of Fine Arts Degree (B.F.A)

The Bachelor of Fine Arts Degree (B.F.A.) is an intensive "professional" program of study specifically tailored to prepare students to enter the field of their chosen major (Art Education, Fine Art, Photography, Graphic Design) or to continue their studies in graduate school. Approximately sixty-five percent of the degree requirements are in the creation and study of the visual arts particular to the chosen major. The B.F.A. degree combines the major specific curriculum with visual arts foundation courses, and the College of Arts and Sciences and University general education requirements.

## Majors include:

## Bachelor of Arts (B.A.) with a Major in:

- Art History
- Visual Arts


## Bachelor of Fine Arts (B.F.A.) with Teacher Licensure Bachelor of Fine Arts (B.F.A.) with a Major in:

- Fine Art
- Graphic Design
- Photography


## Program Descriptions:

## Art History (HOA)

Art history is the study of art and architecture, produced within specific cultural contexts, as a manifestation of human creativity and as a valuable form of historical documentation. Students learn to appreciate the fundamental and varied roles that the visual arts have played and continue to play in the lives of human beings. Toward this end, students learn how images and objects, identified as art, embody, but also condition and control social, religious, cultural, economic, political, and gender dynamics.

## Visual Arts (VAR)

The Bachelor of Arts (B.A.) with a major in Visual Arts is a flexible program that emphasizes a broad liberal arts education with supportive studies in art, design, and art history. This degree offers students a breadth of exploration of all areas making up the Department of Visual Arts. Studio and art history requirements constitute thirty-five to forty percent of the Visual Arts B.A. degree. To take advantage of the diverse academic environment that is the University of Dayton, students are encouraged to earn a minor or a second major within another discipline. However, it is not permitted to obtain a dual-degree in Visual Arts and in either Fine Arts (ART), Graphic Design (GDN), or Photography (PHO). It is permitted to double major in Visual Arts and Art History. In this case, the maximum of twelve semester hours of VAH courses allowed in the Visual Arts major may double count.

## Art Education (FAE)

The Bachelor of Fine Arts with Teacher Licensure, a B.F.A. (E11A) program, offers students expertise in studio practice, art history, aesthetics, and critical analysis of art. Field experience in the Dayton area allows students to transform theoretical knowledge into classroom practice. Graduates are well prepared for teaching positions in public or private schools, pre-kindergarten through grade twelve, as well as for master's degree programs.

## Fine Arts (ART)

The Bachelor of Fine Arts (B.F.A.) with a major in Fine Arts is a professional degree program that provides an intensive, in depth exploration of selected fine art media. Students choose an emphasis in ceramics, drawing, illustration, painting, printmaking, or sculpture.

## Graphic Design (GDN)

The Bachelor of Fine Arts (B.F.A.) with a major in Graphic Design is an intensive professional degree program designed to prepare students for careers in graphic and advertising design, electronic media and related new technologies. Program options include graphic design and computer imaging.

## Photography (PHO)

The Bachelor of Fine Arts (B.F.A.) with a major in Photography is a professional degree that provides an intensive, in depth exploration of photographic media.

## Visual Arts Minors

- A Minor in Art History consists of eighteen semester hours. (For majors in visual arts, only six semester hours of the minor may double count.)
- A Minor in Fine Arts consists of twenty-one semester hours. (Not open to majors in visual arts.)
- A Minor in Photography consists of twenty-one semester hours. (Not open to majors in visual arts.)
- A Minor in Visual Arts consists of twenty semester hours. (Not open to majors in art education, fine arts, photography, or visual communication design.)
- A Minor in Graphic Design consists of twenty-one semester hours. (Not open to majors in visual arts.)
- Transfer students seeking a visual arts minor must complete at least nine of the required semester hours in the visual arts department while in residency at the University of Dayton.


## 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.

## Second Year and Scholarship Review

Near the end of their second year, all Visual Arts majors are reviewed by the Visual Arts faculty. Participation in the Second Year and Scholarship Review is mandatory for all Visual Arts majors. Students must receive a satisfactory review rating before graduating with a visual arts degree. Also included in the review are first and third year students who have been awarded Visual Arts Scholarships. The review process is a valuable learning experience
for the student and it helps the faculty to recommend ways in which students may build upon their assets and overcome their liabilities. Monetary awards applied toward future tuition are available to a limited number of students whose performance in the review is judged by the faculty to be outstanding.

## Senior Capstone Courses

These courses, required in all majors, bring together the skills, education, ideas, and goals of senior students. They stress an integrated approach to learning and working and they focus on preparing students for their futures beyond the University. They provide a logical continuity that begins with the Visual Arts Foundations and the mid-point evaluation of the Second Year and Scholarship Review.

## Faculty

Judith Huacuja, Chairperson
Professors: Crum, Niles, Whitaker, Wilkinson
Associate Professors: Clarke, Gooch, Holscher Almazan, Huacuja, Jones, Kwon, Marcinowski, Matlack-Whitaker, Phelps, Wilbers Lecturers: Jennings, Kessler, Tsen

## Bachelor of Arts with a major in Art History (hoa)

| Art History |  | 3 |
| :--- | :--- | :---: |
| VAH 101 | Intro-Visual Arts | 3 |
| VAH 201 | Survey of Art I | 3 |
| VAH 202 | Survey of Art II | 3 |
| VAH 203 | Survey of Art III | 3 |
| VAH 485 | Art History Seminar | 0 |
| VAR 299 | Second Year Review | 21 |
| Select seven VAH courses (300/400 level) | 6 |  |


| Liberal Studies Curriculum |  |
| :--- | :--- |
| VAR 100 | Vis Arts Foundatn |

Communication Competencies 3-9

Creative and Performing Arts 3
History 6
L2 Proficiency (Proficiency in a language other than English) 0-11
Literature 3
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 11
Philosophy and Religious Studies 12
Social Sciences 12
Total Hours - general education courses/academic electives to total 124 at least

1 Major program electives may be chosen, in consultation with an art history advisor, from among the following disciplines and courses: ANT 300, CMM 313, ENG 322, VAF 104, VAF 232, PHL 320, PSY 375 and REL 374. Alternatives to these courses may be elected with the approval of an art history advisor. Major program electives must be at the 300-400 level (except in the case of Fine Arts courses), and they may not be used to satisfy the liberal studies requirements

## Bachelor of Arts with a major in Visual Arts (var)

| Visual Arts |  |  |
| :--- | :--- | :--- |
| VAD 220 | Design Processes I | 3 |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |
| VAF 216 | Design and Color | 3 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAP 201 | Photography II | 3 |
| or VAP 240 | Digital Processes I |  |
| VAR 299 | Second Year Review | 0 |
| VAR 495 | Senior Project Seminar | 1 |
| VAR 496 | Project,Presnt\&Papr | 3 |
| Select one course from: | 3 |  |


| VAH 201 | Survey of Art I |
| :--- | :--- |
| VAH 202 | Survey of Art II |
| VAH 203 | Survey of Art III |

Select one VAH course (300/400 level) ..... 3
Select five Visual arts electives ${ }^{1}$ ..... 14
Liberal Studies Curriculum
Vis Arts Foundatn ..... 1
Communication Competencies ..... 3-9
History (excludes VAH courses) ..... 6
L2 Proficiency (Proficiency in a language other than English) ..... 0-11
Literature ..... 3
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 11
Philosophy and Religious Studies ..... 12
Social Sciences ..... 12
Total Hours - general education courses/academic electives to total ..... 124
at least

1 Nine of the fourteen hours to be selected from at least two of the following: VAD, VAF, VAP, and VAR. Nine of the fourteen hours must be at the 300-400 level.

## Bachelor of Fine Arts with a major in Art Education (fae)

## Art Education ${ }^{1,2}$

| VAE 231 | Intro-Art Ed | 2 |
| :--- | :--- | :--- |
| VAE 383 | Foundatn of Art Ed | 3 |
| VAE 483 | Tch Visual Arts | 3 |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |


| VAF 204 | Drawing II | 3 |
| :---: | :---: | :---: |
| VAF 216 | Design and Color | 3 |
| VAF 226 | Painting I | 3 |
| VAF 232 | Sculpture I | 3 |
| VAF 240 | Ceramics I | 3 |
| or VAF 242 | Ceramics II |  |
| VAF 253 | Printmaking I | 3 |
| or VAF 353 | Printmaking II |  |
| VAF 304 | Drawing III | 3 |
| VAF 498 | Senior/Prof Seminar | 3 |
| VAF 499 | Portfolio \& Paper:FA | 1 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAR 299 | Second Year Review | 0 |
| Select two courses from: |  | 6 |
| VAH 201 | Survey of Art I |  |
| VAH 202 | Survey of Art II |  |
| VAH 203 | Survey of Art III |  |
| Select one course from: |  | 3 |
| VAH 470 | 19th Century Art I |  |
| VAH 471 | 19th Century Art II |  |
| VAH 480 | 20th Century Art I |  |
| VAH 483 | 20th Century Art II |  |
| Select one VAH course |  | 3 |
| Select four VAR electives |  | 12 |
| Education requirements: |  |  |
| EDT 110 <br> \& 110L | Profession-Teachng and Prfssn Tchng Lab | 3 |
| $\begin{aligned} & \text { EDT } 207 \\ & \& 207 \mathrm{~L} \end{aligned}$ | Chld\&Adol In Eductn and Chld \& Adlsct Ed Lab | 4 |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| $\begin{aligned} & \text { EDT } 340 \\ & \& 340 \mathrm{~L} \end{aligned}$ | Ed Dvse St Pop -Incl and Ed Dvs st Pop Inc Lb | 3 |
| EDT 459 | Crt Rdg Wrtg Cnt Ar | 3 |
| EDT 477 | Stdt Tchng-Art K-12 | 12 |
| Breadth Requirements |  |  |
| VAH 470 | 19th Century Art I | 3 |
| or VAH 471 | 19th Century Art II |  |
| or VAH 480 | 20th Century Art I |  |
| or VAH 483 | 20th Century Art II |  |
| VAR 100 | Vis Arts Foundatn | 1 |
| Communication Competencies |  | 3-9 |
| Humanities |  | 3 |
| Natural Sciences |  | 6 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Philosophy and Religious Studies |  | 9 |
| Social and Behavioral Sciences (includes EDT courses) |  | 6 |
| Total Hours - general education courses/academic electives to total at least |  | 133 |

1 Students in the Art Education program are required to maintain a 2.5 cumulative grade point average overall, and a 2.5 cumulative grade point average in teacher education and visual arts courses.
2 Students are required to pass PRAXIS I and II and a Second Year Review in their studio work.

## Bachelor of Fine Arts with a major in Fine Arts (art)

## Fine Arts

VAF 104 Foundation Drawing 3
VAF 112 Foundation 2-D Dsgn 3
VAF 117 Foundation 3-D Dsgn 3
VAF 204 Drawing II 3
VAF 216 Design and Color 3
VAF 226 Painting I 3
VAF 232 Sculpture I 3
VAF 253 Printmaking I 3
VAF 304 Drawing III 3
VAF 326 Painting II 3
VAF 332 Sculpture II 3
VAF 353 Printmaking II 3
VAF 498 Senior/Prof Seminar 3
VAF 499 Portfolio \& Paper:FA 1
VAP 101 Foundatn Photogrphy 3
VAR 299 Second Year Review 0
VAF emphasis 12
Select two courses from: 6

| VAH 201 | Survey of Art I |  |
| :--- | :--- | :---: |
| VAH 202 | Survey of Art II |  |
| VAH 203 | Survey of Art III | 6 |
| Select two | VAH courses (300/400 level) | 12 |
| Select four Visual arts electives |  |  |
| Breadth Requirements | 1 |  |
| VAR 100 | Vis Arts Foundatn |  |

Communication Competencies 3-9
Humanities (includes HST) 12
Mathematics (excluding MTH 102, 204, 205) 3
Natural Sciences 7
Philosophy and Religious Studies 12
Social and Behavioral Sciences 9
Total Hours - general education courses/academic electives to total 132 at least

## Bachelor of Fine Arts with a major in GRAPHIC Design (GDN)

Graphic Design

| VAD 220 | Design Processes I | 3 |
| :--- | :--- | :--- |
| VAD 240 | Form and Concept | 3 |
| VAD 245 | Typography I | 3 |
| VAD 320 | Design Processes II | 3 |
| VAD 345 | Typography II | 3 |
| VAD 360 | Web Design | 3 |
| VAD 411 | Graphic Design I | 3 |


| VAD 412 | Graphic Design II | 3 |
| :---: | :---: | :---: |
| VAD 415 | Graphic Design III | 3 |
| VAD 498 | Senior/Prof Seminar | 3 |
| VAD 499 | Portfolio\&Paper-GD | 1 |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |
| VAF 204 | Drawing II | 3 |
| VAF 216 | Design and Color | 3 |
| VAH 383 | Hst-Graphic Design | 3 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAR 299 | Second Year Review | 0 |
| Select two courses from: |  | 6 |
| VAH 201 | Survey of Art I |  |
| VAH 202 | Survey of Art II |  |
| VAH 203 | Survey of Art III |  |
| Select one fine arts course from: |  | 3 |
| VAF 226 | Painting I |  |
| VAF 253 | Printmaking I |  |
| VAF 240 | Ceramics I |  |
| VAF 242 | Ceramics II |  |
| VAF 232 | Sculpture I |  |
| VAF 370 | Illustration I |  |
| Select one VAH course (300/400 level) |  | 3 |
| Select one VAP elective |  | 3 |
| Select four Visual Arts electives |  | 12 |
| Select two marketing or communication courses |  | 6 |
| Breadth Requirements |  |  |
| VAR 100 | Vis Arts Foundatn | 1 |
| Communication Competencies |  | 3-9 |
| Humanities |  | 9 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 7 |
| Philosophy and Religious Studies |  | 12 |
| Social and Behavioral Sciences |  | 3 |
| Total Hours - general education courses/academic electives to total at least |  | 129 |

## Bachelor of Fine Arts with a major in Photography (pho)

| Photography |  |  |
| :--- | :--- | :--- |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |
| or VAF 216 | Design and Color |  |
| VAH 382 | Hst of Photogrphy I | 3 |
| VAH 480 | 20th Century Art I | 3 |
| VAH 482 | Hst-Photogrphy II | 3 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAP 201 | Photography II | 3 |
| VAP 240 | Digital Processes I | 3 |
| VAP 302 | Color Photography I | 3 |

VAP 410 Advanced Photography ..... 3
VAP 498 Senior/Prof Seminar ..... 3
VAP 499 Portfolio\&Paper:VAP ..... 1
VAR 299 Second Year Review ..... 0
Select two courses from: ..... 6
VAP 320 Studio Practice IVAP 330 Alternative Photo I
VAP 340 Digital Processes II
Select two courses from: ..... 6
VAH 201 Survey of Art I
VAH 202 Survey of Art II
VAH 203 Survey of Art III
Select three VAP courses (300/400 level) ..... 9
Select five Visual arts electives ..... 14
Breadth Requirements
VAR 100 Vis Arts Foundatn ..... 1
Communication Competencies ..... 3-9
Humanities (includes HST) ..... 18
Mathematics (excluding MTH 102, 204, 205) ..... 3
Natural Sciences ..... 7
Philosophy and Religious Studies ..... 12
Social and Behavioral Sciences ..... 9
Total Hours - general education courses/academic electives to total ..... 131
at least
Minor in Art History (hoa)
Art History
Select two courses from: ..... 6

| VAH 201 | Survey of Art I |
| :--- | :--- |
| VAH 202 | Survey of Art II |
| VAH 203 | Survey of Art III |


| Select four VAH courses (300/400 level) | 12 |
| :--- | :--- |
| Total Hours | 18 |

## Minor in Fine Arts (art)

| Fine Arts |  |  |
| :--- | :--- | :--- |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAH 201 | Survey of Art I | 3 |
| or VAH 202 | Survey of Art II |  |
| or VAH 203 | Survey of Art III | 12 |
| Select four VAF courses | 21 |  |
| Total Hours |  |  |
| Minor in | GRAPHIC Design (GDN) |  |
| Graphic Design |  | 3 |
| VAD 220 | Design Processes I | 3 |
| VAD 240 | Form and Concept | 3 |
| VAD 245 | Typography I | 3 |
| VAD 320 | Design Processes II | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 216 | Design and Color | 3 |
| VAH 383 | Hst-Graphic Design |  |


| Select one course from: |  |  |
| :--- | :--- | :--- |
| VAD 318 | Grph Dsn-3 Dimensns | 3 |
| VAD 345 | Typography II |  |
| VAD 360 | Web Design |  |
| VAD 395 | Advertising Design |  |
| VAD 411 | Graphic Design I |  |
| Total Hours |  | 24 |

## Minor in Photography (pho)

| Photography |  |  |
| :--- | :--- | ---: |
| VAH 382 | Hst of Photogrphy I | 3 |
| VAP 101 | Foundatn Photogrphy | 3 |
| VAP 201 | Photography II | 3 |
| VAP 240 | Digital Processes I | 3 |
| Select three VAP courses $(300 / 400$ level $)$ | 9 |  |
| Total Hours |  | 21 |

## Minor in Visual Arts (var)

| Visual Arts |  |  |
| :--- | :--- | :---: |
| VAD 215 | Computr Appl-Desgn | 2 |
| or VAD 218 | Computr Appl-Illust |  |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAH 201 | Survey of Art I | 3 |
| or VAH 202 | Survey of Art II |  |
| or VAH 203 | Survey of Art III |  |
| VAP 101 | Foundatn Photogrphy | 3 |
| Select two VAD, VAF, VAP and/or VAR courses | 6 |  |
| Total Hours |  | 20 |

## Visual Arts-Art Education Courses

VAE 101. Early Chidhd Art Ed. 2 Hours
EARLY CHILDHOOD ART EDUCATION - Acquaints students, especially those seeking Early Childhood Licensure, with the principles and concepts of art and with the various materials and techniques used in artistic expression. Open to all students. Studio fee.

## VAE 231. Intro-Art Ed. 2 Hours

INTRODUCTION TO ART EDUCATION - An introduction to the pedagogical, philosophical, and psychological aspects of teaching the arts. Topics will include: technology, national and state standards, history, learners with special needs, reading in the arts, and professional associations. Studio fee. Prerequisite(s): EDT 110, EDT 110L.
Corequisite(s): Field experience.

## VAE 232. Integrating the Arts. 2 Hours

INTEGRATING THE ARTS: VISUAL ARTS - Developing knowledge, skills values and attitudes in visual arts for the purpose of integration into classrooms for middle childhood and the adolescent learner. Studio fee. Prerequisite(s): EDT 110, EDT 110L.

## VAE 383. Foundatn of Art Ed. 3 Hours

FOUNDATION OF ART EDUCATION - Introduction to the philosophy, history, and theory of teaching art to prekindergarten through grade eight students with varied needs and abilities. Art education majors only or permission. Studio fee. Prerequisite(s): EDT 110, EDT 110L, EDT 207, EDT 207L; permission of instructor and department chairperson. Corequisite(s): Field experience.

## VAE 483. Tch Visual Arts. 3 Hours

TEACHING VISUAL ARTS - Study of curriculum, planning, theory, and practice for teaching visual arts to students grades seven through twelve. Art Education majors only. Studio fee. Prerequisite(s): EDT 110, EDT 110L, EDT 207, EDT 207L, EDT 208; VAE 231, VAE 383; permission of instructor and department chairperson. Corequisite(s): EDT 305, EDT 340, EDT 340L, EDT 459.

## VAE 483W. Elem\&Sec Sch Art. 3 Hours

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.

## VAE 490. Special Problems. 1-6 Hours

SPECIAL PROBLEMS - Course for advanced individual work in art education. Approval based on academic standing and permission of instructor. Repeatable up to fifteen semester hours. Studio Fee.

## Visual Arts-Art History Courses

VAH 101. Intro-Visual Arts. 3 Hours
INTRODUCTION TO THE VISUAL ARTS - Thematically-based, nonchronological introduction that covers the fundamental and varied roles that the visual arts have played and continue to play in the human experience. Open to all students.

VAH 201. Survey of Art I. 3 Hours
SURVEY OF ART I - Survey of Western art from pre-history through the late medieval period. Open to all students. Fee.

## VAH 202. Survey of Art II. 3 Hours

SURVEY OF ART II - Survey of Western art from the late medieval period through the Baroque. Open to all students. Fee.

## VAH 203. Survey of Art III. 3 Hours

SURVEY OF ART III - Survey of Western art from the eighteenth through the twentieth centuries. Open to all students. Fee.

## VAH 350. Western Architecture. 3 Hours

WESTERN ARCHITECTURE - Introduction to the history, theory, and practice of Western architecture from pre-history through the contemporary period. Open to all students. Fee.

## VAH 360. Art History\&Feminsm. 3 Hours

ART HISTORY AND FEMINISM - Introduction to feminist approaches to art history and women artists from the medieval period to the present. Open to all students. Fee.

## VAH 370. American Art. 3 Hours

NINETEENTH-CENTURY ART I - Introduction to American art and architecture from the colonial period to the present. Open to all students. Fee.

## VAH 382. Hst of Photogrphy I. 3 Hours

HISTORY OF PHOTOGRAPHY II - History of the cultural, social, and aesthetic roles of photography from the camera obscura to 1945.
Emphasis on the changing practice and perception of the medium. Open to all students. Fee.

## VAH 383. Hst-Graphic Design. 3 Hours

HISTORY OF GRAPHIC DESIGN - Study of the significant developments, movements, and figures in the history of graphic design with an emphasis on the twentieth century. Open to all students. Fee.

## VAH 450. Itl Renaissance Art. 3 Hours

ITALIAN RENAISSANCE ART - Introduction to the painting, sculpture, and architecture of Italy between c. 1300 and c. 1550. Fee. Prerequisite(s): VAH 202 or permission of instructor and department chairperson.

## VAH 460. Baroque Art. 3 Hours

BAROQUE ART - Study of the major painters, sculptors, and architects of the seventeenth century. Fee. Prerequisite(s): VAH 202 or permission of instructor and department chairperson.

## VAH 470. 19th Century Art I. 3 Hours

NINETEENTH-CENTURY ART I - Study of the major artists and movements in European art from Neo-Classicism to the beginnings of Realism. Fee. Prerequisite(s): VAH 203 or permission of instructor and department chairperson.

## VAH 471. 19th Century Art II. 3 Hours

NINETEENTH-CENTURY ART II - Study of the major artists and movements in European art from Realism through Art Nouveau. Fee. Prerequisite(s): VAH 470 or permission of instructor and department chairperson.

## VAH 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topc may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## VAH 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## VAH 480. 20th Century Art I. 3 Hours

TWENTIETH-CENTURY ART I - Study of the major movements and artists in the painting, sculpture, architecture, and other media from 1900 to 1945 . Open to all students. Fee.

## VAH 482. Hst-Photogrphy II. 3 Hours

HISTORY OF PHOTOGRAPHY II - The history of photography from 1945 to the present. Examines the medium as a potent force in modern and contemporary culture and as a constantly evolving form of art and tool of communication. Open to all students. Fee.

## VAH 483. 20th Century Art II. 3 Hours

TWENTIETH-CENTURY ART II - Study of the major movements and artists in painting, sculpture, architecture, and other media from 1945 to the present. Open to all students. Fee.

## VAH 485. Art History Seminar. 3 Hours

ART HISTORY SEMINAR - Seminar and capstone reading and research course concentrating on one art historical topic for detailed analysis. May be repeated as topics change. Prerequisite(s): Permission of instructor.

## VAH 490. Special Problems. 1-5 Hours

SPECIAL PROBLEMS - Advanced, independent study with faculty direction in art history. Prerequisite(s): One art history course or permission of instructor and department chairperson.

## Visual Arts-Fine Arts Courses

VAF 104. Foundation Drawing. 3 Hours
FOUNDATION DRAWING - Introduction to basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, volume in space, and expressive freedom. Studio fee.

## VAF 112. Foundation 2-D Dsgn. 3 Hours

FOUNDATION 2-D 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. Studio fee.

## VAF 117. Foundation 3-D Dsgn. 3 Hours

FOUNDATION 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.

## VAF 204. Drawing II. 3 Hours

DRAWING II - Emphasis on figure drawing with work from the nude model and the skeleton. Study of proportion, rendering volume, and developing expressive drawing skills in a variety of drawing media. Studio fee. Prerequisite(s): VAF 104.

## VAF 216. Design and Color. 3 Hours

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. Studio fee. Prerequisite(s): VAF 112 or permission of department chairperson.

## VAF 226. Painting I. 3 Hours

PAINTING I - Introduction to basic painting principles, techniques, and materials; still life, landscape, figure, and abstraction. Studio fee. Prerequisite(s): (VAF 104, VAF 112, VAF 216) or permission of department chairperson.

## VAF 228. Watercolot I. 3 Hours

WATERCOLOR I - Principles and techniques of transparent watercolor. Emphasis on technical mastery. Prerequisite(s): (VAF 104, VAF 112, VAF 216) or permission of department chairperson.

## VAF 232. Sculpture I. 3 Hours

SCULPTURE I-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.

## VAF 240. Ceramics I. 3 Hours

CERAMICS I - Introduction to basic methods of working in clay using coil and slab techniques. Studio fee.

## VAF 242. Ceramics II. 3 Hours

CERAMICS II - Introduction to basic methods of working clay using the wheel. Studio fee.

## VAF 253. Printmaking I. 3 Hours

PRINTMAKING I - Introduction to the traditional printmaking methods of woodcut and intaglio. Instruction in edition-printing techniques and curating of prints. Studio fee. Prerequisite(s): (VAF 104, VAF 112) or permission of department chairperson.

## VAF 304. Drawing III. 3 Hours

DRAWING III - Continuation of work done in VAF 204 with an emphasis on the development of finished figure drawings. Study of anatomy and the rendering of convincing volumes in space. Studio fee. Prerequisite(s): VAF 204.

## VAF 325. Figure Painting. 3 Hours

FIGURE PAINTING - Painting from the model with a variety of media. Traditional and contemporary approaches to the figure. Model fee. Prerequisite(s): ((VAF 204 or VAF 304), VAF 226) or permission of department chairperson.

## VAF 326. Painting II. 3 Hours

PAINTING II - Painting with oils or acrylics; continuing study of the principles and techniques of painting, with emphasis on personal expression and experimentation. Studio fee. Prerequisite(s): (VAF 226 or VAF 228) or permission of department chairperson.

## VAF 328. Watercolor II. 3 Hours

WATERCOLOR II - Continuing investigation of watercolor techniques, both traditional and experimental. Still life, figure, landscape, and abstraction. Prerequisite(s): VAF 228 or permission of department chairperson.

## VAF 332. Sculpture II. 3 Hours

SCULPTURE II - Continued exploration of three-dimensional concepts and materials, concentrating on wood, stone, and metal. Studio fee. Prerequisite(s): VAF 232 or permission of department chairperson.

## VAF 342. Ceramics III. 3 Hours

CERAMICS III - Expanded exploration of skills, concepts, and processes introduced in VAF 240 hand building or VAF 242 wheel thrown ceramic forms, with emphasis on building techniques, materials, glazing, and firing processes. Prerequisite(s): (VAF 240 or 242) or permission of instructor.

## VAF 353. Printmaking II. 3 Hours

PRINTMAKING II - Advanced work in woodcut, monoprint and intaglio, including acrylic process and color etchings. Studio fee. Prerequisite(s): VAF 253.

## VAF 370. Illustration I. 3 Hours

ILLUSTRATION I - Attention to conceptual, visual, and technical development. Exploration of media and techniques employed by the illustrator in creating images for printed communication. Studio fee. Prerequisite(s): VAF 104, VAF 204.

## VAF 380. Illustration II. 3 Hours

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. Studio fee. Prerequisite(s): VAF 370.

## VAF 404. Drawing IV. 3 Hours

DRAWING IV - Observational and expressive drawing. Continued work with the figure in combination with a variety of other subject matter. Emphasis on the development of a body of work with a related idea. Studio fee. Prerequisite(s): (VAF 204, VAF 304) or permission of department chairperson.

## VAF 426. Painting III. 3 Hours

PAINTING III - Directed advanced studio problems; contemporary issues in painting. Repeatable up to nine semester hours. Studio fee. Prerequisite(s): (VAF 325 or VAF 326) or permission of department chairperson.

## VAF 442. Ceramics IV. 3 Hours

CERAMICS IV - Investigation of advanced studio topics within ceramics. Problems structured to encourage technical, conceptual, and aesthetic exploration leading to the creation of a cohesive body of work. May be repeated as topics change. Prerequisite(s): VAF 342 or permission of instructor.

## VAF 453. Printmaking III. 3 Hours

PRINTMAKING III - Advanced work in printmaking processes with an emphasis on the production of multi-color editions. Studio fee. Prerequisite(s): VAF 353.

## VAF 470. Illustration III. 3 Hours

ILLUSTRATION III - Focus on developing an individual point of view and illustration style. Studio Fee. Prerequisite(s): VAF 380.

## VAF 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the departmental chairpersons. Prerequisite(s): Approval of University Honors Program.

## VAF 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## VAF 490. Special Problems. 1-5 Hours

SPECIAL PROBLEMS - Course for advanced individual work in fine arts. Approval based on academic standing and permission of instructor. Repeatable up to fifteen semester hours.

## VAF 498. Senior/Prof Seminar. 3 Hours

SENIOR/PROFESSIONAL SEMINAR - FINE ARTS - Capstone course required of all B.A. and B.F.A. fine arts and art education (E11) majors, to be taken in the first semester of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Studio fee. Prerequisite(s): Junior standing.

## VAF 499. Portfolio \& Paper:FA. 1 Hour

PORTFOLIO AND PAPER - FINE ARTS - Completion and presentation of undergraduate portfolio and paper, to be reviewed by faculty and peers. Faculty approval of portfolio and paper is required for graduation. Studio fee. Prerequisite(s): VAF 498 or permission of department chairperson.

## Visual Arts-Photography Courses

## VAP 101. Foundatn Photogrphy. 3 Hours

FOUNDATION PHOTOGRAPHY - Fundamentals of black-and-white still photography, including camera function, exposure, film processing, and printing, with an emphasis on learning the visual language of photographic imagery through a series of creative assignments. Studio fee.

## VAP 201. Photography II. 3 Hours

PHOTOGRAPHY II - Variety of challenging projects develop increased technical competence, greater visual awareness, personal expression, and sustained creative growth. Studio fee. Prerequisite(s): VAP 101 or equivalent.

## VAP 240. Digital Processes I. 3 Hours

DIGITAL PROCESSES I - Introduction to the practice, theory, aesthetics, and ethics of digital photography, including direct capture, scanning, enhancement, compositing, manipulation, and high-quality printing. Studio fee. Prerequisite(s): VAP 101 or permission of department chairperson.

## VAP 302. Color Photography I. 3 Hours

COLOR PHOTOGRAPHY I - Introduction to techniques and aesthetics of color photography. Students utilize color sensitive films, papers, and digital technologies in the exploration of color photography. Studio fee. Prerequisite(s): (VAP 101, VAP 240) or permission of department chairperson.

## VAP 320. Studio Practice I. 3 Hours

STUDIO PRACTICE I - Extensive use of large format camera, studio grip equipment, tungsten and electronic flash lighting techniques; still-life and portrait photography in a studio environment. Studio fee. Prerequisite(s): VAP 201.

## VAP 330. Alternative Photo I. 3 Hours

ALTERNATIVE PHOTOGRAPHY I - Introduction to specialized image production utilizing silver and non-silver photographic processes.
Emphasis on technical and aesthetic aspects of alternative photographic practice. Studio fee. Prerequisite(s): VAP 101.

## VAP 331. Alternative Photo II. 3 Hours

ALTERNATIVE PHOTOGRAPHY II - Continuing work with alternative silver and non-silver processes. Emphasis on completion of an artist book or installation which demonstrates advanced technical command and aesthetic understanding of the processes employed. Studio fee. Prerequisite(s): VAP 330.

## VAP 340. Digital Processes II. 3 Hours

DIGITAL PROCESSES II - Expands on the practice and theory of digital photography and computer imaging. Emphasis is placed on the creation of a cohesive portfolio of digital artwork through the exploration of advanced digital methodologies and concepts. The course will also focus on the different modes of dissemination relevant to digital images. Studio fee. Prerequisite(s): VAP 240.

## VAP 350. View Camera. 3 Hours

VIEW CAMERA - Extensive experience with the view camera, examination of refined techniques, various applications, and concepts of large format photography. Studio fee. Prerequisite(s): VAP 201.

## VAP 402. Color Photography II. 3 Hours

COLOR PHOTOGRAPHY II - Continuation of color printing from negatives; completion of individual projects which will demonstrate an advanced understanding of the techniques and aesthetics peculiar to color photography. Studio fee. Prerequisite(s): VAP 302.

## VAP 410. Advanced Photography. 3 Hours

ADVANCED PHOTOGRAPHY - Students with a substantial commitment to photography and with demonstrated technical skills work on individual projects and participate in group critiques and discussions. Studio fee.
Prerequisite(s): VAH 382 or VAH 482; VAP 201, VAP 302.

## VAP 420. Photojournalism. 3 Hours

PHOTOJOURNALISM - Variety of ways of using photography as documentation, narrative, and propaganda. Editing of work, layout, and image-text relationships. Personal photographic essay required. Studio fee. Prerequisite(s): VAP 201.

## VAP 430. Prof Phtogrphc Appl. 3 Hours

PROFESSIONAL PHOTOGRAPHIC APPLICATIONS - Problem-solving associated with professional photography; may include commercial, editorial, industrial, architectural, and illustrative photographic work both in the studio and on location. Studio fee. Prerequisite(s): VAP 320 or permission of department chairperson.

## VAP 450. Photogrphy Internshp. 1-3 Hours

PHOTOGRAPHY INTERNSHIP - Practical applications of photographic skills. Opportunities for advanced development and practical experience in professional working environments. Repeatable up to six semester hours for B.F.A. students. Prerequisite(s): Permission of department chairperson.

## VAP 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the Univeristy Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## VAP 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## VAP 490. Spe Problems-Photo. 1-5 Hours

SPECIAL PROBLEMS IN PHOTOGRAPHY - Series of assignments to guide independent study in photography, formulated to meet individual needs of the student. Studio fee. Prerequisite(s): VAP 201; permission of department chairperson.

## VAP 498. Senior/Prof Seminar. 3 Hours

SENIOR/PROFESSIONAL SEMINAR - PHOTOGRAPHY - Capstone course required of all B.A. and B.F.A. photography majors, to be taken in the first semester of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Studio fee. Prerequisite(s): (VAP 410; senior standing) or permission of department chairperson.

## VAP 499. Portfolio\&Paper:VAP. 1 Hour

PORTFOLIO AND PAPER - PHOTOGRAPHY - Completion and presentation of an undergraduate portfolio and a comprehensive paper that surveys the student's undergraduate career in the major and also serves as the foundation for a formal, public presentation that is reviewed by faculty and peers. Faculty approval of the portfolio and the paper is required for graduation. Prerequisite(s): VAP 498 or permission of department chairperson.

## Visual Arts Courses

## VAR 100. Vis Arts Foundatn. 1 Hour

VISUAL ARTS FOUNDATION - Defines and examines the process of beginning a program of education in the visual arts within the larger context of the College of Arts and Sciences and the University. Integrates pragmatic and conceptual issues critical to liberal learning for visual arts students.

## VAR 210. Visual Journal. 3 Hours

VISUAL JOURNAL - Students document and interpret their experience of a given site through the creation of unique journals. They create, collect, edit, and juxtapose visual materials in combination with written commentary and reflections. Studio fee.

## VAR 220. Visual Resources. 3 Hours

VISUAL RESOURCES - Students study a wide variety of visual elements, including many forms of visual communication as well as architecture, public spaces, and museums, in order to understand ways in which art and design play key roles in defining the unique cultural environment of a given site. Studio fee.

## VAR 299. Second Year Review. 0 Hours

SECOND YEAR REVIEW - Requires successful completion of Visual Arts Second Year Review. Eligibility for the review is determined by the department and is based upon a student's progress within the major. Visual Arts Scholarship recipients complete this course during their second year in the major. The review is based upon prior Visual Arts coursework completed and in progress at the time of the review. Required for all Visual Arts majors.

## VAR 345. Cmptr ModI\&Anmtn I. 3 Hours

COMPUTER MODELING AND ANIMATION I - Introduction to history, theory, and practice of three-dimensional computer modeling and animation for video, computer, and print media. Visualization, Cartesian space, simple polygonal modeling, surface rendering, and animation techniques will be explored. Studio fee.

## VAR 440. Cmptr ModI\&Anmtn II. 3 Hours

COMPUTER MODELING AND ANIMATION II - Detailed study of splinebased modeling, surface rendering and mapping, editing complex animation sequences, motion control, and other topics. Studio fee. Prerequisite(s): VAR 345.

## VAR 445. Cmptr ModI\&Anmtn III. 3 Hours

COMPUTER MODELING AND ANIMATION III - Individual projects in conceptualization and production of animated sequence from storyboard to final presentation. Studio fee. Prerequisite(s): VAR 440.

## VAR 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## VAR 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477; approval of University Honors Program.

## VAR 490. Special Problems. 1-5 Hours

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.

## VAR 495. Senior Project Seminar. 1 Hour

SENIOR PROJECT SEMINAR - The first in a sequence of two capstone courses. To be taken in the first semester of the senior year. Required for all Bachelor of Arts with a major in Visual Arts degrees. Students select a faculty mentor committee and work with that committee to establish a capstone project topic, goals, outcomes, and timeline associated with the project. Prerequisite(s): Senior standing. VAR majors only or permission of department chairperson.

## VAR 496. Project,Presnt\&Papr. 3 Hours

PROJECT, PRESENTATION, AND PAPER - The second of two capstone courses leading to graduation. To be taken in the second semester of the senior year. Students complete a senior project and paper, and give a public presentation regarding the project to be reviewed by faculty and peers. Faculty approval of project and paper is required for graduation. Prerequisite(s): VAR 495 or permission of department chairperson.

## Visual Arts-Visual Comm Desgn Courses

## VAD 211. Fund-Vis Comm Dsgn. 3 Hours

FUNDAMENTALS OF VISUAL COMMUNICATION DESIGN - Course for non-majors in the basics of design for communication. Attention to page layout, typography, image, graphic style, and information delivery. Studio fee.

## VAD 215. Computr Appl-Desgn. 2 Hours

COMPUTER APPLICATIONS - DESIGN - An introduction to page design software programs and their use in the design process. Studio fee. Prerequisite(s): VAR 200.

## VAD 218. Computr Appl-Illust. 2 Hours

COMPUTER APPLICATIONS - ILLUSTRATION - An introduction to drawing and paint software programs and their use in illustration. Studio fee. Prerequisite(s): VAR 200.

## VAD 220. Design Processes I. 3 Hours

DESIGN PROCESSES I - Introduction to the processes of graphic design, specifically computer applications, equipment, and concepts as related to print and electronic based graphic design. Additionally, students engage in a survey of materials, assembly strategies, and various vehicles for the designed message. Studio fee. Prerequisite(s): VAF 112.

## VAD 240. Form and Concept. 3 Hours

FORM AND CONCEPT - Exploration of visual form as means to convey content and meaning. Students enlist principles from art and design foundation courses within the context of graphic design. Design methodologies are introduced and explored, while process and hand skills are stressed. Studio fee. Prerequisite(s): VAF 112, VAF 216.

## VAD 245. Typography I. 3 Hours

TYPOGRAPHY I - Investigation of the history, tradition, discipline, and function of typography as related to visual and verbal communication. Technical, formal, and semantic aspects are explored. Structure, space, and sequence, critical to the typographic message, are stressed. Studio fee. Prerequisite(s): VAD 220, VAD 240.

## VAD 307. Drawing-Grphc Desgn. 2 Hours

DRAWING FOR GRAPHIC DESIGN - Exploration of materials, procedures, and drawing techniques for design presentations. Studio fee. Prerequisite(s): VAF 104.

## VAD 310. Computer Illustratn. 3 Hours

COMPUTER ILLUSTRATION - Exploration of the use of the computer as tool and medium for the creation and production of image and illustration for print and electronic graphic design. Studio fee. Prerequisite(s): VAD 220, VAD 240.

## VAD 312. Visual Form. 3 Hours

VISUAL FORM - Investigation of the perceptual and psychological effect of the visual elements-line, shape, value, volume, texture, and colorin visual communication. Exploration of word and image relationships. Studio fee.

## VAD 318. Grph Dsn-3 Dimensns. 3 Hours

GRAPHIC DESIGN FOR THREE DIMENSIONS - Application of graphic design principles to packaging, product, exhibition, and environmental design. Studio fee. Prerequisite(s): VAD 240, VAD 245; VAF 117.

## VAD 320. Design Processes II. 3 Hours

DESIGN PROCESSES II - Advanced exploration into the use of computer technology as means and medium for the implementation, production, and presentation of graphic design. Print design and production, as well as commercial printing pre-press are emphasized with additional attention given to production for electronic design vehicles. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245.

## VAD 321. Comptr Aided Illus. 3 Hours

COMPUTER AIDED ILLUSTRATIONS - An exploration of the use of the computer as both a tool and a medium for the creation and production of illustrations. Studio fee.

## VAD 344. Desgn for Multmda I. 3 Hours

DESIGN FOR MULTIMEDIA I - An introduction to the design process, including visual prinicples, aesthetic issues, and diverse applications for multimedia and interactive electronic media. Emphasis is placed on the visual organization of information in these environments. Studio fee.

## VAD 345. Typography II. 3 Hours

TYPOGRAPHY II - The advanced study of typographic design. Attention to the aesthetic and informational qualities of type in print and electronic communication. Studio fee. Prerequisite(s): VAD 245.

## VAD 351. Motion Design. 3 Hours

MOTION DESIGN - Exploration of the generation and application of motion in visual communication. This course builds on graphic design form, methods, technique, and principles to generate dynamic messaging using type, sound, image, and animation. While the computer and appropriate applications are primary tools, hand generated methods for concept and storyboarding are stressed as well. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245, VAD 320.

## VAD 355. Interaction Design. 3 Hours

INTERACTION DESIGN - Investigation of the use of interactivity as applied to the digital and analog landscape. Focus on the design of richly interactive interfaces for current and emerging media (computers, mobile, touch etc.). While some emphasis is on the development and implementation of design vehicles, decided attention is paid to concept and visual effectiveness. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245, VAD 320.

## VAD 360. Web Design. 3 Hours

WEB DESIGN - Investigation of the processes of web design, including concept, information architecture, navigation, interface, and standard languages and technologies for the delivery of content and information. Organization, aesthetics, and user experience are discussed and explored. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245, VAD 320.

## VAD 395. Advertising Design. 3 Hours

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. Studio fee.

## VAD 411. Graphic Design I. 3 Hours

GRAPHIC DESIGN I - Development of methodologies utilized for the purpose of generating concepts and effective communication within the context of graphic design. Attention is given to pragmatic and semantic relationships between elements such as typography, image, space, and color. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245, VAD 320.

## VAD 412. Graphic Design II. 3 Hours

GRAPHIC DESIGN II - Development of methodologies utilized for the purpose of generating concepts and effective communication within the context of graphic design. Attention is given to pragmatic and semantic relationships between elements such as typography, image, space, and color. Studio fee. Prerequisite(s): VAD 220, VAD 240, VAD 245, VAD 320.

## VAD 414. Trademark Design. 3 Hours

TRADEMARK DESIGN - Advanced study of marks, logos, and symbols as communication and identification elements. Emphasis on conceiving design marks of identity for small businesses, corporations, institutions, products, and/or services. Studio fee. Prerequisite(s): VAD 411.

## VAD 415. Graphic Design III. 3 Hours

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. Studio fee. Prerequisite(s): VAD 412 or permission of department chairperson.

## VAD 444. Desgn for Multmda II. 3 Hours

DESIGN FOR MULTIMEDIA II - Advanced level design for multimedia and interactive electronic media. Emphasis is placed on actual or simulated client-based projects.

## VAD 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consulatation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## VAD 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and department chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved VAD 477; approval of University Honors Program.

## VAD 480. Design Internship. 1-3 Hours

DESIGN INTERNSHIP - Opportunities for practical experience in professional working environments. Repeatable up to nine semester hours. Prerequisite(s): Permission of department chairperson.

## VAD 490. Special Problems. 1-3 Hours

SPECIAL PROBLEMS A - course for advanced individual work in design. Approval based on academic standing and permission of instructor. Repeatable up to fifteen semester hours. Studio fee.

## VAD 498. Senior/Prof Seminar. 3 Hours

SENIOR/PROFESSIONAL SEMINAR - Capstone course required of all B.F.A. graphic design majors, to be taken in the fall term of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Studio fee. Prerequisite(s): Senior standing or permission of department chairperson.

## VAD 499. Portfolio\&Paper-GD. 1 Hour

PORTFOLIO \& PAPER - Completion and presentation of undergraduate portfolio and paper, to be reviewed by faculty, peers, and professionals in a public forum. Faculty approval of portfolio and paper is required for graduation. Prerequisite(s): VAD 498 or permission of department chairperson.

## Women's and Gender Studies

Major:

- Bachelor of Arts, Women's and Gender Studies

Minor:

- Women's and Gender Studies

Women's and gender studies places the experiences and perspectives of women at the center of analysis and also considers how gender intersects with other factors, such as race and class, to shape all of our lives. Interdisciplinary in nature, and founded upon the integration of theory and practice, critique and imagination, women's and gender studies brings approaches from other disciplines and fields into conversation with each other and with critical theories about gender and power to address and improve the lives of women and, by extension, of children and men. Inspired by both feminist and Marianist traditions, the Women's and Gender Studies Program at UD seeks to promote:

- Integration, collaboration, and personal engagement in learning
- The development and dissemination of critical thinking for social justice
- The appreciation and protection of human dignity and diversity
- Leadership through responsibility and service to community

Students majoring in women's and gender studies must complete thirtyfour to thirty-nine semester hours, including at least ten semester hours in four core WGS courses and twenty-four semester hours of upper-division courses offered by other departments. For these additional twenty-four semester hours, students must complete nine semester hours in one area of concentration, six semester hours in each of two additional areas, and three semester hours in a fourth area.

The major also has a cultural diversity requirement of six semester hours. (These hours may be from courses that are also used to fulfill the area requirements.) Of the six hours, three must be from a course that emphasizes race, and/or that takes a multicultural approach, within a U.S. or European context; the other three must be from a course that focuses
on a non-U.S./European context or that takes a comparative international approach.

Courses taken for the major may also count toward completion of the Liberal Studies Curriculum.

Students minoring in women's and gender studies must complete at least fifteen semester hours, including one interdisciplinary core course (WGS 150, WGS 310 or WGS 350) and twelve hours in approved upper-division courses ( 300 -level or above) from at least three different disciplines.
Alternatively, minors may take two of the interdisciplinary core courses, and nine hours in approved upper-division courses from three different disciplines.

## Women's and Gender Studies Committee

Rebecca Whisnant (Philosophy), Director
Bennett (Religious Studies), Damasco (Roesch Library), DesAutels (Philosophy), Fleischmann (History), Hudson (Political Science), James (Philosophy), Laufer-Ukeles (Law), Leming (Sociology, Anthropology, and Social Work), Merithew (History), Picca (Sociology, Anthropology, and Social Work), Potter (English), Rismiller (Women's Center), Watters (Communication)

## Bachelor of Arts with a major in Women's and Gender Studies (wgs)

| Women's and Gender Studies |  |  |
| :--- | :--- | :---: |
| WGS 150 | Intro Wm\&Gndr Stdies ${ }^{1,2}$ | 3 |
| or WGS 350 | Fem Social Change |  |
| WGS 310 | Fem Thry \& Mthd | 3 |
| WGS 390 | Service Lrng in WGS | $1-3$ |
| WGS 490 | Senior Sem in WGS | 3 |


| First area courses: | 9 |
| :--- | :---: |
| Select nine semester hours from one area below |  |
| Second area courses: | 6 |
| Select six semester hours from a second area below | 6 |
| Third area courses: |  |
| Select six semester hours from a third area below |  |
| Fourth area courses: ${ }^{3}$ | 3 |
| Select three semester hours from the final area below |  |

Areas: ${ }^{4}$

## Literature and Arts

| CMS 415 | Women \& Communication |
| :--- | :--- |
| ENG 333 | Images-Women in Lit |
| ENG 335 | African Amer Lit |
| ENG 336 | Gender in Fiction |
| ENG 345 | Colonl\&Postcolnl Lit |
| VAH 360 | Art History\&Feminsm |

History
HST 347 Sex,Race \& Sicence
HST 350 Gay Lesbian US HST
HST 351 Women Gender Am
HST 352 Hst of Amer Family
HST 353 Hst-Wom in Eurp Soc
HST 354 Hst-Women Mid East
HST 356 Women in Third World
Philosophy and Religious Studies

| PHL 307 | Philosophy and Women |  |
| :---: | :---: | :---: |
| PHL 364 | Race, Gender\&Phl |  |
| REL 471 | Women and Religion |  |
| REL 472 | Ecology \& Religion |  |
| REL 474 | Women-Global Church |  |
| Social Sciences ${ }^{3}$ |  |  |
| ANT 306 | Culture and Power |  |
| HSS 325 | Women in Sport |  |
| POL 340 | Gender\&Internatnl Rel |  |
| PSY 443 | Psychology of Women |  |
| PSY 462 | Human Sexuality |  |
| SOC 322 | Sex Roles \& Society |  |
| SOC 330 | Perspctves-Agng |  |
| SOC 331 | Marriage \& Family |  |
| SOC 332 | Sociology of Women |  |
| SOC 333 | Soc of Sexualities |  |
| SOC 339 | Social Inequality |  |
| SOC 355 | Famlies\&The Economy |  |
| SOC 432 | Struct of Privlege |  |
| SWK 325 | Child Abuse |  |
| SWK 327 | Parentng:Soc Welfare |  |
| SWK 330 | Perspectves on Agng |  |
| SWK 370 | Social Welfare Policy |  |
| UDI 341 | Sexual Diversity |  |
| Cultural Diversity Requirement ${ }^{5}$ |  |  |
| Select one U.S./Europe Multicultural course from: |  | 3 |
| ENG 335 | African Amer Lit |  |
| HST 351 | Women Gender Am |  |
| HST 353 | Hst-Wom in Eurp Soc |  |
| PHL 364 | Race, Gender\&Phl |  |
| SOC 432 | Struct of Privlege |  |
| Select one Global (non U.S./Europe) course from: |  | 3 |
| ANT 306 | Culture and Power |  |
| ENG 345 | Colonl\&Postcolnl Lit |  |
| HST 354 | Hst-Women Mid East |  |
| HST 356 | Women in Third World |  |
| POL 340 | Gender\&Internatnl Rel |  |
| REL 471 | Women and Religion |  |
| REL 474 | Women-Global Church |  |
| Liberal Studies Curriculum |  |  |
| ASI 150 | Intr to the Univ Exp | 1 |
| Communication Competencies |  | 3-9 |
| Creative and Performing Arts |  | 3 |
| History |  | 6 |
| L2 Proficiency (Proficiency in a language other than English) |  | 0-11 |
| Literature |  | 3 |
| Mathematics (excluding MTH 102, 204, 205) |  | 3 |
| Natural Sciences |  | 11 |
| Philosophy and Religious Studies |  | 12 |
| Social Sciences |  | 12 |

Total Hours - general education courses/academic electives to total 124 at least

1 Restricted to students with no more than six semester hours applicable to a WGS major or minor. This course counts toward the WGS major only if taken before any other WGS core course.
2 A major who has taken WGS 150 may also take WGS 350 in lieu of one of the required disciplinary courses. WGS 350 will be counted toward the area requirement that most reflects the course's content during the relevant term.
3 In order to achieve some balance in approach, students must complete at least six semester hours each in both social sciences (anthropology, political science, psychology, sociology, and social work) and humanities (literature, arts, history, philosophy, and religious studies) courses. For this reason, social sciences must normally serve as the first, second, or third area, and not as the fourth.
4 Other courses may be counted toward the major, with approval of the program director, and depending on topic and content during a given semester.
5 This requirement may be satisfied with courses that are also used to fulfill the area requirements. Of the six semester hours, three must be from a course that emphasizes race, and/or that takes a multicultural approach, within a U.S. or European context; the other three must be from a course that focuses on a non-U.S./European context or that takes a comparative international approach.

## Minor in Women's and Gender Studies (wgs)

| WGS 150 | Intro Wm\&Gndr Stdies | 3 |
| :---: | :---: | :---: |
| or WGS 310 | Fem Thry \& Mthd |  |
| or WGS 350 | Fem Social Change |  |
| Select twelve semester hours from at least three different academic disciplines (300/400 level) ${ }^{2}$ |  | 12 |
| Total Hours |  | 15 |

1 Students who wish to minor in Women's and Gender Studies should contact the director of the Women's and Gender Studies Program.
2 A student may, alternatively, take two of the indicated WGS core courses (WGS 150, WGS 310, WGS 350) and three upper-level courses from three different disciplines.

## Courses

## WGS 150. Intro Wm\&Gndr Stdies. 3 Hours

INTRODUCTION TO WOMEN'S AND GENDER STUDIES - Introduction to history, methods, and key debates in Women's and Gender Studies. Intersectional (studying gender as it intersects with other social identity categories such as race, class, and sexuality), multi- or interdisciplinary (drawing from the arts, humanities, social sciences, and natural sciences), and multicultural in approach. Prerequisite(s): Restricted to students with no more than six semester hours applicable to a WGS major or minor.

## WGS 310. Fem Thry \& Mthd. 3 Hours

FEMINIST THEORY AND METHODOLOGY - Exploration of the intersections of feminist epistemology, methodology, politics, and ethics. Consideration and comparison of a range of theories about gender, power, and knowledge that have shaped the development of feminist and womanist thought, research, practice, and movement in the U.S. and in other parts of the world. Prerequisite(s): WGS 150 or six semester hours prior WGS credit.

## WGS 350. Fem Social Change. 1-3 Hours

FEMINIST SOCIAL CHANGE - Exploration of the methods and priorities of feminist social change efforts in varying national, cultural, and/or religious contexts, including outside of the U.S. and Europe. Investigation of the nature, possibilities, and challenges of global/transnational feminist movement(s). Prerequisite(s): WGS 150 or six semester hours prior WGS credit.

## WGS 380. Special Topics in WGS. 1-3 Hours

SPECIAL TOPICS IN WOMEN'S AND GENDER STUDIES - Intensive examination of current thematic, theoretical, or methodological issues in the field of Women's and Gender Studies. Consult composite for topics. May be repeated as topic changes. Prerequisite(s): WGS 150 or WGS 310 or WGS 350 or six semester hours prior WGS credit.

## WGS 390. Service Lrng in WGS. 1-3 Hours

SERVICE-LEARNING IN WOMEN'S AND GENDER STUDIES Individualized placements in community organizations that enable students to apply and enrich their formal studies by engaging in service work that addresses women's needs and/or advances social justice in relation to gender. May be done as an independent or group study under the direction of a WGS faculty member. May also be done in conjunction with another course. May be repeated up to a maximum of three semester hours. Prerequisite(s): WGS 150 or WGS 310 or WGS 350; permission of program director.

## WGS 477. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - First of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and departmental chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approval of University Honors Program.

## WGS 478. Honors Thesis. 3 Hours

HONORS THESIS PROJECT - Second of two courses leading to the selection, design, investigation, and completion of an independent, original Honors Thesis project under the guidance of a faculty research advisor. Restricted to students in the University Honors Program with permission of the program director and departmental chairperson. Students pursuing an interdisciplinary thesis topic may register for three semester hours each in two separate disciplines in consultation with the department chairpersons. Prerequisite(s): Approved 477 and approval of University Honors Program.

## WGS 480. Ind Study in WGS. 3 Hours

INDEPENDENT STUDY IN WOMEN'S AND GENDER STUDIES -
Individual investigations of special topics in the field of Women's and Gender Studies under faculty direction. May be repeated under special circumstances. No more than six semester hours of WGS 480 may count toward the major. Prerequisite(s): WGS 150 or WGS 310 or WGS 350; approval of program director.

## WGS 490. Senior Sem in WGS. 3 Hours

## SENIOR SEMINAR IN WOMEN'S AND GENDER STUDIES -

Concentration on a particular topic or problem in Women's and Gender Studies, with focus on critical theories, methodologies, ethics and practices appropriate for advanced feminist research. Emphasis on integration (e.g. of feminist theory, methods, and practice) and interdisciplinarity. May require students either to work collaboratively on a single research project or to apply certain theories or methods central to the seminar in their exploration of individual projects. May be repeated as topics change. Prerequisite(s): WGS 150 or WGS 350, WGS 310.

# School of Business Administration 

Paul Bobrowski, Dean

Elizabeth Gustafson, Associate Dean
Paul Sweeney, Associate Dean

## Mission

The School of Business Administration is a learning community committed in the Catholic and Marianist tradition to educating the whole person and to connecting learning and scholarship with leadership and service in an innovative business curriculum designed to prepare ethical leaders for successful careers in a global business environment.
Through the curriculum and co-curriculum of the School, students develop the ability to integrate learning across disciplines, apply the theory they are learning to real business problems, and lead with ethics and integrity. Success in business requires an understanding of human values and the society in which business operates as well as mastery of the various areas of business. For this reason, the undergraduate curriculum includes three areas of coursework:

- A foundation in the liberal arts (which includes the University General Education Program)
- A firm grounding in the common body of business knowledge (core business requirements)
- Specialization in a business major


## Curriculum Overview

The undergraduate curriculum for students earning a BS in Business Administration includes three areas of coursework:

- A foundation in the liberal arts (which includes the University General Education Program)
- A firm grounding in the common body of business knowledge (core business requirements)
- Specialization in a business major

All business students follow essentially the same curriculum during their first and second years, regardless of major. This curriculum consists of a common set of liberal arts and core business requirements with the first year mostly devoted to liberal arts requirements.
In the third and fourth years, all business students also take a common set of upper level liberal arts and core business requirements in addition to courses to complete their chosen major.

For information on majors, minors and certificates offered by the School of Business Administration and their requirements, visit the Programs of Study link.

Each major requires several hours of general electives, typically 3-12 hours depending upon the major, which students often use to support an additional major or minor.

Students need 123 hours to graduate, with 54 hours at the upper level (300-400).
Students should consult with their academic advisor in the SBA Center for Academic Success in addition to tracking their own progress towards degree requirements.
Liberal Arts Requirements 48
CMM $110 \quad$ Group Dec-Making 1

| CMM 111 | Inform Public Sp | 1 |
| :--- | :--- | :--- |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: | 3 |  |


| PHL 313 | Business Ethics |
| :--- | :--- |
| REL 368 | Chr Ethics\&Bus World |

Select one business writing requirement from: 3

| ENG 370 | Rprt\&Proposal Wrtng |
| :--- | :--- |
| ENG 371 | Technical Commnicatn |
| ENG 372 | Business Commicatn |

Select two natural science electives from:

| BIO 101 | General Biology I |
| :--- | :--- |
| CHM 200 | Chemistry \& Society |
| GEO 109 | General Geology |
| PHY 105 | Phy Sci Energy \& Env |
| PHY 108 | Phy Sci-Light\&Color |

Select one social science elective from: 3

| ANT 150 | Cultural Anthropolgy |
| :--- | :--- |
| POL 101 | Global Politics |
| POL 201 | Amer Political Systems |
| PSY 101 | Introductory Psych |
| SOC 101 | Prin of Sociology |

Art Study elective 3

HST elective ( $300 / 400$ level) 3
PHL/REL elective (300/400 level) 3
Business Requirements 45
ACC 207 Intro-Financial Acc 3
ACC 208 Intro-Managerial Acc 3
BAI 150 Bus Educ Planning 1
BAI 103L Bus Computing Lab 1
BAI 151 Bus Integratn Exp 1
DSC 210 Stats For Bus I 3
DSC 211 Stats For Bus II 3
ECO 203 Prin of Microecon 3
ECO 204 Prin of Macroecon 3
FIN 301 Intro to Financial Mgt 3
MGT 201 Legal Envirnmt-Bus 3
MGT $301 \quad$ Organiztnl Behavior 3
MGT $490 \quad$ Managing the Entrpse 3
MIS $301 \quad$ Info Sys in Org 3
MKT $301 \quad$ Prin of Marketing 3
OPS 301 Survy-Oper\&Supply Mgt 3
ECO elective (300/400 level) 3
Major Requirements

Courses required for the major. (Visit program descriptions in Programs of Study.)

## General Electives

Most majors have 12 hours of General Elective courses associated with the major. Exceptions are Accounting and Operations and Supply Management which have 6 hours, and Management Information Systems, which has 3 hours. Many students use the general elective hours to support an additional major or minor.

## Academic Programs

The School of Business Administration offers a Bachelor of Science degree with majors and minors in:

- Accounting (p. 265)
- Business Economics (p. 269)
- Entrepreneurship (p. 277)
- Finance (p. 270)
- International Business (p. 274)
- Leadership (p. 278)
- Management Information Systems (p. 284) (emphasis in Business Intelligence or in Cyber Security available)
- Marketing (p. 279) (emphasis inSales Management (p. 280) available)
- Operations and Supply Management (p. 286)

Minors are also available in:

- Business Administration (p. 268) (non-business majors only)
- Business Intelligence (p. 286)
- Cyber-Security (p. 286)
- Business Analytics (p. 288)

The Certificate in Alternative Investments (p.270) is available to all students through the Department of Economics and Finance.

Double majors and minors in business administration programs, and also in non-business programs, are available. A maximum of seven hours of coursework can double count between double majors and a major and a minor. Interested students should consult with their academic advisor in the SBA Center for Academic Success for details.

A Bachelor of Science in Business Administration with a major in accounting, coupled with an MBA degree is also available. This program normally requires a fifth year of study. Students must apply and qualify for admission into graduate school during their fourth year in order to participate.

## Degree Requirements

1. The candidate must successfully complete all course requirements for the BS in Business Administration including:
a. courses in the liberal arts required by the University General Education and Competency program, including the completion of a three course Thematic Cluster;
b. courses in business and liberal arts required for all School of Business Administration (SBA) students;
c. courses required to complete a major in the SBA.
2. Students must complete 123 total semester hours to graduate.
a. Courses totaling 54 semester hours must be at the 300-400 level.
b. Waived course hours must be made up with an equivalent number of undergraduate course hours.
c. Only 7 hours of course work can double count between two majors or a major and a minor.
d. From 3 to 12 hours of general elective credits are required to reach the required total semester hours, depending on major. The general elective hours may be used to support a second major or minor.
e. At least 30 of the final 36 semester hours must be earned in residence at the University of Dayton.
3. The candidate for graduation must have at least a 2.0 cumulative grade point average and also at least a 2.0 grade point average in each major and minor. The 2.0 grade point average in the major includes all courses attempted in the student's major except for the courses that are part of the SBA core.
4. In addition to those courses which must be taken under Option 1, a student may take a maximum of 12 semester hours of general electives under Option 2 within the hours required for graduation in the degree program. A student may take any course beyond the minimum hours required for graduation in the degree program under Option 2. All courses that are used to fulfill Liberal Arts, Business, major, minor, and Competency requirements must be taken under Option 1.
5. The candidate has the responsibility of meeting degree requirements for the BS in Business Administration. Therefore, the student should be thoroughly familiar with the degree requirements and with his or her progress towards meeting those requirements.

## 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 submit a complete application in accordance with UD admissions policies.

## INTERNAL TRANSFERS:

Students must first attend an initial internal transfer meeting with an Academic Advisor in the School of Business Administration. Stop in the Center for Academic Success in Miriam Hall 108 to schedule this initial SBA internal transfer meeting.

## Minimum Requirements:

1. Minimum cumulative UD GPA of 2.7
2. Successful completion of an appropriate UD Math course, such as a UD Calculus class, a C+ or higher in MTH 116 or MTH 128, or a B- or higher in MTH 207. Math courses taken at another college or university will NOT be considered.

## Cooperative Education

The School of Business Administration participates in the University of Dayton Cooperative Education Program, which is an optional program often consisting of full-time, on-campus study alternating with terms of full-time, off-campus work. For a fuller explanation of the program, visit Cooperative Education in the Interdisciplinary, Experiential and Special area of the General Information section of the Catalog or contact Career Services.

## Internship

Internships are defined as professional work experience. 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 major. It is an option open to all undergraduate students pursuing four-year programs.

Students can earn credit for internships only through the department of their major. Approval from the department chairperson or the chairperson's designee is a prerequisite for earning general elective credit for participation in the program. Individual departments may require other prerequisite courses prior to the internship experience. Students are responsible for checking with the department of their major prior to beginning the internship to determine the prerequisites unique to the department.

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. Assistance in finding internships is available from Career Services, department chairs, and faculty.

Academic credit may be approved for a successful internship. Such credit is applied as general elective credit only. The maximum number of semester hours that may be earned over the full four-year degree program is six, although individual department requirements may differ. Interested students should see the department chairperson or designee for further information as soon as they are eligible for participation.

## Study Abroad Programs

Students in the School of Business Administration (SBA) may participate in the University of Dayton Summer Study Abroad Programs as well as Semester Exchange Programs with partners throughout the world. Details on both these programs can be found at www.udayton.edu/edabroad and brief descriptions are provided below.

Summer Programs. A variety of summer programs are available for students to consider, each with its own theme and location. For example, students can travel to Europe, South America, Asia, or Africa. Most of these programs are conducted during two separate five-week summer terms. Shorter two-week trips are also available during summer and the Intersession (winter break). The programs are taught by UD faculty and offer students the opportunity to complete required and themebased elective courses in settings such as Costa Rica, England, Spain, Italy, China, and more. Students participating in Summer Sutdy Abroad register to take at least two classes (6 credit hours) in a summer session. Participants will complete work equivalent to that of courses taken on campus, with the added requirement of applying their studies to the site they are visiting.

Accepted students are required to participate in a comprehensive orientation and preparation class in which features about their destination country are studied along with University safety and security procedures and other pre-departure details. Students on academic or behavioral probation are not permitted to participate in any University study abroad program. All interested students are encouraged to meet with their advisor or the Study Abroad Director well in advance of any travel.

Semester Exchange Programs. Students may also wish to spend an extended time studying overseas. For those students, UD provides several opportunities to take classes with one of our foreign exchange partners throughout the world. Exchanges can be undertaken either during the Fall or Spring semesters, and students will live and study
with other domestic and international students at our foreign exchange partner institutions. Courses are typically taught in English, although some partners have foreign language requirements. To ensure courses taken during a semester exchange transfer to UD, students must seek approval by advisors in the Center for International Programs (CIP) as well as their SBA advisor before undertaking an exchange.

Planning for Education Abroad. Students should ideally begin planning during their first year for participation in a study abroad program, determining which courses are normally offered and then holding those courses for their international experience and completing any necessary prerequisites prior to the program. If pre-approved by SBA advisors, the courses taken abroad will then count for the student's degree program, keeping the student on track to graduate on time or even ahead of schedule.

For more information please contact:
Short Term Study Abroad Exchange Programs/Partner Information
Peter G. Wagner, Director Tina Manco Newton, Exchange Director SBA Study Abroad Programs Center for International Programs
AN 119 Rike 208
937-229-2479 937-229-3728
pwagner1@udayton.edu tmanco1@udayton.edu

## Programs of Study

To learn more about the available programs in the School of Business Administration, explore the departments in the menu on the right.

## Accounting

Major:

- Bachelor of Science in Business Administration, Accounting

Minor:

## - Accounting

The mission of the Department of Accounting is to prepare our students for successful professional careers by providing high quality educational programs in accounting within an environment that connects learning, scholarship, leadership, and service creating distinctive graduates able to add value to employers, clients, and society.
In addition to other requirements, an accounting major must earn credit in seven upper-level accounting courses. Six specific courses are required: ACC 303, 305, 306, 341, 401, and 420. One additional accounting course is typically required but may be waived for students electing to complete a combined BSBA with a major in accounting and an MBA or completing a second major. All upper-division accounting courses require a minimum grade of " C " in all prerequisite accounting courses, except that ACC 303 and ACC 305 require a minimum of " $\mathrm{C}+$ " in ACC 207 and ACC 208. 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, double majors and minors, foreign exchange opportunities, and requirements for professional examinations (e.g., CPA).

Students may complete a 150 semester hour program required to become a CPA in Ohio and numerous other states. The MBA program, with an optional concentration in accounting, is particularly useful in this regard. Our integrated BSBA/MBA program allows for the completion
of both degrees, plus professional work experience, foreign exchange experience and a second major or minor, in five years. Consult the department chairperson or an advisor for more information.

## Faculty

Donna Street, Chairperson
Professors Emeriti: Clark, Eley, Fioriti, Geary, Roehm, Rosenzweig
Mahrt Chair in Accounting: Donna Street
Professors: Castellano, Larson, Street
Associate Professors: Brady, Burrows, Greenlee
Assistant Professors: Archambeault, Webber
Lecturers: Rogero, Shankar

## Bachelor of Science in business administration with a major in Accounting (ACC)

| Liberal Arts Requirements |  | 48 |
| :---: | :---: | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: |  | 3 |
| PHL 313 | Business Ethics |  |
| REL 368 | Chr Ethics\&Bus World |  |
| Select one business writing requirement from: |  | 3 |
| ENG 370 | Rprt\&Proposal Wrtng |  |
| ENG 371 | Technical Commnicatn |  |
| ENG 372 | Business Commicatn |  |
| Select two natural science electives from: |  | 6 |
| BIO 101 | General Biology I |  |
| CHM 200 | Chemistry \& Society |  |
| GEO 109 | General Geology |  |
| PHY 105 | Phy Sci Energy \& Env |  |
| PHY 108 | Phy Sci-Light\&Color |  |
| Select one social science elective from: |  | 3 |
| ANT 150 | Cultural Anthropolgy |  |
| POL 101 | Global Politics |  |
| POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych |  |
| SOC 101 | Prin of Sociology |  |
| Art Study elective |  | 3 |
| HST elective ( $300 / 400$ level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |


| BAI 103L | Bus Computing Lab | 1 |
| :---: | :---: | :---: |
| BAI 151 | Bus Integratn Exp | 1 |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective (300/400 level) |  | 3 |
| Major Requirements |  | 24 |
| ACC 303 | Managerial Accountng | 3 |
| ACC 305 | Intrm Financial ACC I | 4 |
| ACC 306 | Intrm Financl Acc II | 3 |
| ACC 341 | Acc Informtn Sys I | 3 |
| ACC 401 | Auditing Principles | 4 |
| ACC 420 | Federal Income Taxtn | 4 |
| ACC elective (May be waived for students electing to complete a combined B.S. with a major in accounting and an MBA, or completing a second major. Consult an advisor or the chair of the department for details.) |  | 3 |

## Minor in Accounting (ACC)

## Accounting

ACC 207 Intro-Financial Acc 3
ACC 208 Intro-Managerial Acc 3
ACC 305 Intrm Financial ACC I 4
ACC 306 Intrm Financl Acc II 3
Select two ACC electives ${ }^{1} \quad 6-8$

Total Hours 19-21
1 In consultation with the department chairperson.

## Courses

ACC 200. Intro to Accounting. 3 Hours
INTRODUCTION TO ACCOUNTING - Introduction to primarily financial and secondarily 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.

## ACC 207. Intro-Financial Acc. 3 Hours

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. Prerequisite(s): Sophomore standing or permission of department chairperson.

## ACC 208. Intro-Managerial Acc. 3 Hours

INTRODUCTION TO MANAGERIAL ACCOUNTING - Management use of accounting data in planning and controlling organization activities; cost accounting and analysis of data for management decision making. Prerequisite(s): ACC 207. Corequisite(s): BAI 103L.

## ACC 300A. Prin of Financl Acc. 1.5 Hour

PRINCIPLES OF FINANCIAL ACCOUNTING - An introduction to the concepts and procedures underlying financial accounting and financial statements, and the use of financial accounting information for decision making. Credit may not be earned for both ACC 300A and either ACC 200 or ACC 207. Prerequisite(s): Engineering major; sophomore standing; permission of department chairperson.

## ACC 300B. Prin of Managrl Acc. 1.5 Hour

PRINCIPLES OF MANAGERIAL ACCOUNTING - An introduction to the concepts underlying the preparation and use of accounting data by managers as they plan, control, and make decisions within an organization. Credit may not be earned for both ACC 300B and ACC 208. Prerequisite(s): ACC 300A; engineering major; sophomore standing; permission of department chairperson.

## ACC 303. Managerial Accountng. 3 Hours

MANAGERIAL ACCOUNTING - The production, dissemination, and interpretation of financial and nonfinancial information for use within an organization. Information for planning, decision making, and control. Study of typical cost accounting systems in various organizations. Prerequisite(s): (ACC 207, ACC 208, with mimimum grades of 'C+'; junior standing) or permission of department chairperson; Business majors only.

## ACC 305. Intrm Financial ACC I. 4 Hours

INTERMEDIATE FINANCIAL ACCOUNTING I - Part I (part II in ACC 306) of a comprehensive treatment of financial accounting concepts, principles, and procedures used in the preparation and analysis of financial statements. Prerequisite(s): (ACC 207, ACC 208, with minimum grades of ' $\mathrm{C}+$ '; junior standing) or permission of department chairperson; Business majors only.

## ACC 306. Intrm Financl Acc II. 3 Hours

INTERMEDIATE FINANCIAL ACCOUNTING II - Part II of comprehensive treatment of financial accounting concepts, principles, and procedures used in the preparation and analysis of financial statements.
Prerequisite(s): ACC 305 with a minimum grade of ' $C$ '.

## ACC 341. Acc Informtn Sys I. 3 Hours

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. Prerequisite(s): ACC 305 with a minimum grade of ' C '; (MIS 301 or permission of department chairperson).

## ACC 401. Auditing Principles. 4 Hours

AUDITING PRINCIPLES - Study of the concepts, standards, and procedures used to judge and report on the degree of correspondence between quantifiable information and established criteria; the ethical, regulatory, and professional responsibilities of the auditor and introduction to internal, operational, and governmental auditing. Prerequisite(s): ACC 306 with a minimum grade of ' $C$ '; ACC 341 with a minimum grade of ' C '.

ACC 404. Adv Stratgc Cost Mgt. 3 Hours
ADVANCED STRATEGIC COST MANAGEMENT - Study of processes focused on strategic cost management. Topics include balanced scorecards, activity-based costing management, target costing, lean accounting, six sigma, environmental accounting, and performance measurement and control systems. Prerequisite(s): (ACC 303; OPS 301) with a minimum grade of ' $C$ '.

## ACC 408. Adv Financial Acctg. 3 Hours

ADVANCED FINANCIAL ACCOUNTING - Study of consolidated financial statements and accounting for business combinations, government organizations, multinational subsidaries, and foreign currency transactions. Selected IFRS issues are integrated into the course. Prerequisite(s): ACC 306 with a minimum grade of $C$ or permission of department chairperson.

## ACC 412A. Contemp Iss-Acctng. 3 Hours

CONTEMPORARY ISSUES IN ACCOUNTING - Seminar covering emerging or controversial issues for the student who has a strong accounting background. Topics include the business and financial situations that underlie accounting problems and controversies, alternative accounting techniques which are accepted or proposed, and the consequences of various accounting practices. Prerequisite(s): ACC 306 or permission of instructor.

## ACC 412B. International Acctng. 3 Hours

INTERNATIONAL ACCOUNTING - Study of current topics in international accounting. This course will typically include a week or more of study outside of the U.S. that will include lectures and relevant site visits. In addition to normal tuition, there may be travel and other costs and fees. Foreign locations, countries, topics, and duration may vary. Prerequisite(s): ACC 306 or permission of instructor.

## ACC 412C. Internatl Acc-IFRS. 3 Hours

INTERNATIONAL ACCOUNTING-IFRS CERTIFICATE AND
RESEARCH - This class includes a comprehensive study of International Financial Reporting Standards (IFRS). Students will complete the Institute of Chartered Accountants in England and Wales' (ICAEW) IFRS learning and assessment program and upon successful completion earn an IFRS certificate from this globally recognized professional accountacy body. Prerequisite(s): ACC 306 or equivalent; permission of instructor. ACC 408 / MBA 603 strongly recommended.

## ACC 412D. InternatI Acc-IFRS. 3 Hours

INTERNATIONAL ACCOUNTING-IFRS CERTIFICATE AND
RESEARCH - This class is for NON-UD degree seeking students. The class includes a comprehensive study of International Financial Reporting Standards (IFRS). Students will complete the Institute of Chartered Accountants in England and Wales' (ICAEW) IFRS learning and assessment program and upon successful completion earn an IFRS certificate from this globally recognized professional accountacy body. Prerequisite(s): ACC 306 or equivalent; permission of instructor. ACC 408 / MBA 603 strongly recommended.

## ACC 420. Federal Income Taxtn. 4 Hours

FEDERAL INCOME TAXATION - Study of federal income tax laws and their application to individuals, partnerships, and corporations. Develop research techniques for federal income tax issues as they relate to preparation of federal individual income tax preparation. The historical, social, economic, and political influence on taxation laws are emphasized. Consideration is given to legal, moral, business, and personal factors involved in taxation. Prerequisite(s): ACC 305 with a minimum grade of ' C ' or permission of department chairperson

## ACC 421. Taxes \& Bus Strategy. 3 Hours

TAXES AND BUSINESS STRATEGY - Primary emphasis is given to analyzing tax planning opportunities for individuals and businesses through the use of in-depth tax research projects. This course builds upon the Federal Income Taxation course to further develop tax policy considerations and discusses possible tax reform. The course provides an introduction to several advanced taxation topics including tax exemption organizations, state and local taxation, international taxation and estate and gift taxation. Prerequisite(s): ACC 420 or permission of instructor.

## ACC 441. Acc Informtn Sys II. 3 Hours

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(s): ACC 341 or permission of instructor.

## ACC 491. Honors Thesis. 3 Hours

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.

## ACC 492. Honors Thesis. 3 Hours

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.

## ACC 497. Professional Wk Expr. 1-6 Hours

PROFESSIONAL WORK EXPERIENCE - Supervised accounting work experience in association with a participating public accounting, industrial, commercial, educational, health-care, or governmental organization. May be used for general elective credit only. Option two grading only. Maximum of three credits toward graduation requirements. Permission of chairperson required.

## ACC 499. Indep Study in Acc. 1-6 Hours

INDEPENDENT STUDY IN ACCOUNTING - Individual research in accounting topics under the guidance and direction of an accounting faculty member. A formal, detailed proposal must be completed and approved by the department chair. Prerequisite(s): Senior status in accounting; permission of department chairperson.

## Business Interdisciplinary Studies (BAI)

## Minor in Business Administration (BUS)

The minor in Business Administration is available to non-business majors only. The course requirements are:

| ACC 200 <br> or ACC 207 <br> or ACC 208 | Intro to Accounting | 3 |
| :--- | :--- | :---: |
| ECO 203 | Intro-Managerial Acc |  |
| Select four courses from: |  |  |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 12 |
| MGT 301 | Organiztnl Behavior |  |
| MIS 300 | Survey of Mgt Info Sys |  |
| MKT 300 | Survey of MKT |  |
| OPS 300 | Intro-Oper\&Supply Mgt |  |
| Total Hours |  | 18 |

## Courses

## BAI 103L. Bus Computing Lab. 1 Hour

BUSINESS COMPUTING LABORATORY - Introduction to business software skills including spreadsheets, relational databases, and integration of computer applications. Overview of UD computer ethics policies.

## BAI 150. Bus Educ Planning. 1 Hour

BUSINESS EDUCATIONAL PLANNING - Introduction to the School of Business Administration, the University, and educational planning.

## BAI 151. Bus Integratn Exp. 1 Hour

BUSINESS INTEGRATION EXPERIENCE - Integrated introduction to major business processes and decision making.

## BAI 294. Spec Topics in SBA. 3 Hours

SPECIAL TOPICS IN SBA - Special Topics in SBA.
BAI 400. Dean's Leadership Lab. 1 Hour
DEAN'S LEADERSHIP LABORATORY - Upper-class student participation in first-year student advising program. Prerequisite(s): Permission of dean's office.

## BAI 497. Lab Work Experience. 1-6 Hours

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. Prerequisite(s): Permission of dean.

## Economics and Finance

Majors:

- Bachelor of Science in Business Administration, Business Economics
- Bachelor of Science in Business Administration, Finance

Minors:

- Business Economics
- Finance

Certificate:

- Alternative Investments

The Department of Economics and Finance offers majors in business economics and in finance for students in the School of Business Administration. The department also offers majors in economics (p. 146) and in applied mathematical economics (p. 191) for students in the College of Arts and Sciences (search these majors to view their requirements.) Minors in economics, business economics, and finance are available to all students.

## Faculty

John Rapp, Chairperson
Professors: Caporale, Chen, Frasca, Rapp, Ruggiero
Associate Professors: Gustafson, Mohan, Poitras, Wang
Assistant Professors: Chang, Collier, Zhang
Lecturers: Douglas, John, Livesay, McNew, Shimmin

## Business Economics

Economics teaches students to think analytically about problems that arise in business, politics, and everyday life. The business economics major offers students the strength of economic theory combined with a focus in an area of applied business and develops the student's quantitative skills by requiring course work in econometrics or forecasting. The major is excellent preparation for a wide range of employment opportunities in business, government and education. It also prepares students for graduate study in law, public policy, and business. Students who wish to pursue graduate study in economics should supplement the major with additional mathematics courses or major in applied mathematical economics.
In addition to other requirements, a major in business economics requires: ECO 203-204 (with a grade of C or better), ECO 340 or 346, ECO 410 or 441, ECO 490, 6 additional semester hours of economics electives, and a breadth requirement of 6 semester hours of courses in one other business discipline chosen from a list of approved courses.
See the department office for the approved breadth requirement courses. The breadth courses should be chosen to complement the economics electives taken by the student.

## Faculty

John Rapp, Chairperson
Edmund B. O'Leary Professor of Economics: Ruggiero
Professors: Caporale, Frasca, Rapp, Ruggiero
Associate Professors: Gustafson, Poitras
Assistant Professor: Collier
Lecturer: John

## Bachelor of Science in business administration with a major in Business Economics (ECB)

Liberal Arts Requirements 48

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :--- |
| CMM 111 | Inform Public Sp | 1 |


| or CMM 112 | Persuasive Public Sp |  |
| :---: | :---: | :---: |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: |  | 3 |
| PHL 313 | Business Ethics |  |
| REL 368 | Chr Ethics\&Bus World |  |
| Select one business writing requirement from: |  | 3 |
| ENG 370 | Rprt\&Proposal Wrtng |  |
| ENG 371 | Technical Commnicatn |  |
| ENG 372 | Business Commicatn |  |
| Select two natural science electives from: |  | 6 |
| BIO 101 | General Biology I |  |
| CHM 200 | Chemistry \& Society |  |
| GEO 109 | General Geology |  |
| PHY 105 | Phy Sci Energy \& Env |  |
| PHY 108 | Phy Sci-Light\&Color |  |
| Select one social science elective from: |  | 3 |
| ANT 150 | Cultural Anthropolgy |  |
| POL 101 | Global Politics |  |
| POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych |  |
| SOC 101 | Prin of Sociology |  |
| Art Study elective |  | 3 |
| HST elective (300/400 level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |
| BAI 151 | Bus Integratn Exp | 1 |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective (300/400 level) |  | 3 |
| Major Requirements |  | 18 |
| ECO 340 | Managerial Economics | 3 |


| or ECO 346 | Intrmd MicroEco Anly |  |
| :--- | :--- | :--- |
| ECO 410 | Bus\&Eco Forecasting | 3 |
| or ECO 441 | Econometrics |  |
| ECO 490 | Sr Sem-Applied Eco | 3 |
| ECO elective |  | 3 |
| Breadth requirements | 6 |  |

Business economics majors must earn a grade of C or better in ECO 203 and ECO 204.

## Minor in Business Economics (ECB)

| Business Economics |  |  |
| :--- | :--- | :---: |
| ECO 203 | Prin of Microecon ${ }^{1}$ | 3 |
| ECO 204 | Prin of Macroecon ${ }^{1}$ | 3 |
| ECO 340 | Managerial Economics |  |
| or ECO 346 | Intrmd MicroEco Anly | 3 |
| ECO 410 | Bus\&Eco Forecasting |  |
| or ECO 441 | Econometrics | 3 |
| Select two ECO electives |  |  |
| Total Hours |  | 6 |

1 Students may substitute ECO 300 and one more 300 or 400 level ECO course for ECO 203 and ECO 204.

## Finance

The finance major provides students with a working understanding of the financial decision-making process, how financial markets function, and the acquisition and management of capital. A student may choose a general finance curriculum or specialize in courses relating to investment analysis and portfolio management, financial institutions and services, or corporate financial management. Students will be prepared for a variety of careers in business and in the government sector with work in areas such as financial analysis, capital budgeting, banking, mergers and acquisitions, working capital management, real estate, and insurance. A major in finance is also excellent preparation for graduate studies in business administration or corporate and securities law.

In addition to other requirements, the major in finance consists of FIN 360, Investments; nine semester hours of 400 level finance electives; and six additional semester hours of 300 or 400 level finance electives.
Finance majors must earn at least a C in FIN 301, Introduction to Financial Management. One of the electives may come from: ACC 305, ECO 415, ECO 488, MTH 490.

## Certificate in Alternative Investments:

Alternative investments encompasses energy markets, foreign exchange markets, commodity markets, and others. The certificate is a leading edge program which significantly enhances employment opportunities for students. An important adjunct to the certificate program is the Flyer Forex Fund (FFF), a leveraged currency portfolio managed by a studentrun proprietary trading group. The FFF has two primary goals. One is to educate students in finance by providing them with an in-depth experience trading real money in the spot currency market; the other is to teach students the discipline of money management in order to prepare them for financial management positions. The appropriate courses and the FFF are housed in the Hanley Trading Center. To receive the certificate, and have it posted on an official transcript, students must complete 10 hours of required courses with a minimum grade point average of 3.2 for these four courses:
FIN 481, Fundamental and Technical Trading (3 credits)

FIN 481L, Trading Lab (1 credit)
FIN 482, Energy Markets (3 credits)
FIN 483, Applied Options Trading (3 credits)
Students seeking the certificate are strongly encouraged to participate in the Flyer Forex Fund.

## Faculty

John Rapp, Chairperson
William J. Hoben Professor of Finance: Chen
Professor: Chen
Associate Professors: Mohan, Wang
Assistant Professors: Chang, Zhang
Lecturers: Douglas, Livesay, McNew, Shimmin

## Bachelor of Science in business administration with a major in Finance (FIN)

| Liberal Arts Requirements | 48 |  |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: | 3 |  |

$\begin{array}{ll}\text { PHL } 313 & \text { Business Ethics } \\ \text { REL } 368 & \text { Chr Ethics\&Bus World } \\ \text { Select one business writing requirement from: } & 3\end{array}$

| ENG 370 | Rprt\&Proposal Wrtng |
| :--- | :--- |
| ENG 371 | Technical Commnicatn |
| ENG 372 | Business Commicatn |

Select two natural science electives from: 6

| BIO 101 | General Biology I |
| :--- | :--- |
| CHM 200 | Chemistry \& Society |
| GEO 109 | General Geology |
| PHY 105 | Phy Sci Energy \& Env |
| PHY 108 | Phy Sci-Light\&Color |
| Select one social science elective from: |  |

Select one social science elective from: 3

| ANT 150 | Cultural Anthropolgy |
| :--- | :--- |
| POL 101 | Global Politics |
| POL 201 | Amer Political Systems |
| PSY 101 | Introductory Psych |
| SOC 101 | Prin of Sociology |

Art Study elective

HST elective (300/400 level) 3
PHL/REL elective (300/400 level) 3
Business Requirements 45
ACC 207 Intro-Financial Acc 3
ACC 208 Intro-Managerial Acc 3

| BAI 150 | Bus Educ Planning | 1 |
| :---: | :---: | :---: |
| BAI 103L | Bus Computing Lab | 1 |
| BAI 151 | Bus Integratn Exp | 1 |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective (300/400 level) |  | 3 |
| Major Requirements |  | 18 |
| FIN 360 | Investments | 3 |
| Select three FIN electives (400 level) |  | 9 |
| Select two FIN electives (300-400 level), one may be from: |  | 6 |
| ACC 305 | Intrm Financial ACC I |  |
| ECO 415 | Game Thry w/Fin App |  |
| ECO 488 | Prod Eco\&Perf Evltn |  |
| MTH 490 | Readings |  |

Finance majors must earn a grade of C or better in FIN 301.

## Minor in Finance (FIN)

| Finance |  |  |
| :--- | :--- | :---: |
| FIN 301 | Intro to Financial Mgt | 3 |
| FIN 360 | Investments | 3 |
| Select three FIN electives (at least one at the 400 level) | 9 |  |
| Total Hours | 15 |  |

## Economics Courses

## ECO 203. Prin of Microecon. 3 Hours

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.

## ECO 204. Prin of Macroecon. 3 Hours

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.

## ECO 301. Sem in Market Econ. 3 Hours

SEMINAR IN MARKET ECONOMICS - Market solutions to economic and political issues. Topics vary, but may include issues relating to drugs, gun control, environmental concerns, government interventions, economic and political freedom, and others. Team taught course. Prerequisite(s): ECO 203.

## ECO 340. Managerial Economics. 3 Hours

MANAGERIAL ECONOMICS - Application of economic models to managerial decision making. Topics include demand analysis, forecasting demand, short-run cost analysis, long-run cost and production functions, pricing, and risk and uncertainty. May not get credit for both ECO 340 and ECO 346. Prerequisite(s): ECO 203.

## ECO 346. Intrmd MicroEco Anly. 3 Hours

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, and welfare economics. May not get credit for both ECO 346 and ECO 340. Prerequisite(s): ECO 203.

## ECO 347. Intrmd MacroEco Anly. 3 Hours

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(s): ECO 204; ECO 203 recommended.

## ECO 390. Antitrust Economics. 3 Hours

ANTITRUST ECONOMICS - Study of how economic analysis has been applied in the interpretation of the antitrust statutes. Examines major antitrust laws and relevant case law; reviews economic theories of market behavior. Prerequisite(s): ECO 203.

## ECO 410. Bus\&Eco Forecasting. 3 Hours

BUSINESS AND ECONOMIC FORECASTING - Forecasting techniques, including ARIMA time series models, econometric models, moving averages, exponential smoothing, and time series decomposition, are used to forecast business and economic variables. Data sources, selection of appropriate forecasting tools and models, and evaluation of forecast results are studied. Prerequisite(s): ECO 203, ECO 204; Statistics (DSC 211 or MTH 207 or MTH 367 or MTH 412).

## ECO 415. Game Thry w/Fin App. 3 Hours

GAME THEORY WITH BUSINESS APPLICATIONS - Introductory course in strategic decision making; provides a thorough discussion of the basic techniques of applied game theory and of systematic thinking in making business decisions. Among the topics covered with applications to business are equilibrium strategies, understanding situations involving conflict and cooperation, auction design and bidding strategy, and bargaining and negotiations. Prerequisite(s): ECO 203.

## ECO 435. Eco of Environmnt. 3 Hours

ECONOMICS OF THE ENVIRONMENT - Introduction to the economics of the global environment including an analysis of market failure as a cause of environmental degradation. Topics covered include costbenefits analysis, criteria for public investment, regulation of the environment, and the sustainable global environment. Prerequisite(s): ECO 203.

## ECO 441. Econometrics. 3 Hours

ECONOMETRICS - Training in the art of making economic measurements from empirical data using regression analysis as the principle tool; use of computer software to estimate and test regression equations; interpretation of results using statistical inference. Prerequisite(s): (ECO 203, ECO 204; differential calculus and basic statistics) or permission of instructor.

## ECO 442. Money and Banking. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 445. Public Finance. 3 Hours

PUBLIC FINANCE - The economic aspects of government finance at the local, state, and especially the 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. Prerequisite(s): ECO 203, ECO 204.

## ECO 460. Eco Develop \& Growth. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 461. International Econ. 3 Hours

INTERNATIONAL ECONOMICS - Major issues surrounding international trade and finance, the economic interdependence of nations and businesses, essential theoretical and empirical tools necessary to monitor and analyze international economic phenomena, and the application of these tools to contemporary business problems and issues. Prerequisite(s): ECO 203, ECO 204.

## ECO 471. Labor Economics. 3 Hours

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. Prerequisite(s): ECO 203, ECO 204.

## ECO 480. Sports Economics. 3 Hours

SPORTS ECONOMICS - The application of economic analysis to the sports industry. Examines demand and efficiency in the product market; the labor market for professional athletes and mechanisms for restricting competition in that market; problems in achieving an efficient allocation of resources in the sports industry. Prerequisite(s): ECO 203; (DSC 211 or MTH 207) or equivalent.

## ECO 485. Urban\&Regional Econ. 3 Hours

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(s): ECO 203; (DSC 211 or MTH 207); ECO 346 recommended.

## ECO 488. Prod Eco\&Perf Evltn. 3 Hours

PRODUCTION ECONOMICS AND PERFORMANCE EVALUTAION Intermediate course in theoretical and applied microeconomic production theory; provides a thorough discussion of the basic techniques of applied production theory and performance evaluation of decision making units. Topics include returns to scale, technical and allocative efficiency, benchmarking, environmental costs, and programming. Prerequisite(s): ECO 203.

## ECO 490. Sr Sem-Applied Eco. 3 Hours

SENIOR SEMINAR IN APPLIED ECONOMICS - Economic analysis applied in an area of topical interest chosen by the instructor; includes the application of theoretical, mathematical, and statistical methods mastered in previous economics courses. This capstone course provides students an opportunity to extend their proficiency in economic analysis through application and discussion in a small group setting. Typically offered during the spring semester. Economics or Business Economics majors only. Prerequisite(s): Twelve semester hours in Economics.

## ECO 491. Honors Thesis. 3 Hours

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.

## ECO 492. Honors Thesis. 3 Hours

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.

## ECO 494. Seminar. 3 Hours

SEMINAR - Subject varies from time to time. May be taken more than once if topic changes. Prerequisites to be announced.

## ECO 496. Co - Op Work Term. 3 Hours

COCOPERATIVE 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. Economics or Business Economics majors only. Prerequisite(s): Permission of department chairperson.

## ECO 497. Internship. 1-3 Hours

INTERNSHIP FOR GENERAL ELECTIVE CREDIT - Practical work experience associated with career development and career exploration relating to the student's major. Permission of the department chair or designee required. Does not replace economics courses for the economics major. Economics or Business Economics majors only. Prerequisite(s): Forty-five semester hours of credit.

## ECO 498. Independent Stdy-Eco. 1-6 Hours

INDEPENDENT STUDY IN ECONOMICS - Directed readings and research in selected fields of economics. The number of semester hours 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(s): 3.0 GPA in economics with a minimum of nine semester hours in economics; nomination by faculty; permission of the department chairperson.

## Finance Courses

## FIN 250. Personal Finance. 3 Hours

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. Does not count toward the finance major.

## FIN 301. Intro to Financial Mgt. 3 Hours

INTRODUCTION TO FINANCIAL MANAGEMENT - 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. Prerequisite(s): (ACC 200 or ACC 207 or ACC 301); ECO 203; junior standing.

## FIN 330. Insurance \& Risk Mgt. 3 Hours

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. Prerequisite(s): FIN 301 with minimum grade of C.

## FIN 336. Prin of Real Estate. 3 Hours

PRINCIPLES OF REAL ESTATE - Survey of real estate industry with emphasis on its structure, regulation, growth, needs, financing, and future. Analysis of the methods for determining land use and evaluation of the theories of city development. Prerequisite(s): FIN 301 with minimum grade of $C$.

## FIN 360. Investments. 3 Hours

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(s): FIN 301 with minimum grade of $C$.

## FIN 371. Financial Mkts\&Inst. 3 Hours

FINANCIAL MARKETS AND INSTITUTIONS - Study of financial markets and financial institutions, including the Federal Reserve, interest rate theories, money and capital market securities, interest rate futures, options and swaps, international financial markets, such as commercial banking, insurance, and investment banking. Prerequisite(s): FIN 301 with minimum grade of $C$.

## FIN 401. Adv Financial Anly. 3 Hours

ADVANCED FINANCIAL ANALYSIS - Advanced study of current developments in financial planning, acquisition of funds, and asset management valuation; policy strategy and techniques in financial decision making. Prerequisite(s): FIN 301 with minimum grade of C.

## FIN 402. Mergrs,Acq Corp Gover. 3 Hours

MERGERS, ACQUISITIONS, CAPITAL RESTRUCTURING AND CORPORATE GOVERNANCE - In depth study of company valuation techniques and the influence of the governance structure - the CEO, President, and the Board of Directors - on company value. Prerequisite(s): FIN 301, FIN 360.

## FIN 430. Short-Term Fin Mgt. 3 Hours

SHORT-TERM FINANCIAL MANAGEMENT - Covers several areas of the corporate treasury function with a focus on managing current assets and liabilities to enhance the firm's liquidity, profitability, and value. Specific areas include analyzing short-term financial decisions such as financing inventory and receivables, granting, trade credit, and making short-term investments and short-term risk management for interest rates and foreign exchange. This course introduces students to the techniques and practices used to evaluate short-term financial decisions. Prerequisite(s): FIN 301; (FIN 360 or FIN 401).

## FIN 450. Interntl Bus Finance. 3 Hours

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(s): FIN 301 with minimum grade of $C$.

## FIN 460. Portfol Mgt\&Sec Anl. 3 Hours

PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS - Advanced valuation theory and security analysis; portfolio construction, evaluation, and management. Prerequisite(s): FIN 360.

## FIN 470. Fixed Inc Sec. 3 Hours

FIXED INCOME SECURITIES - Introduction to the analytical/ computational techniques for pricing fixed income securities, interest rate derivatives, and implementing effective portfolio strategies to control interest rate risk and enhance return. Prerequisite(s): FIN 360 or FIN 371.

## FIN 471. Mgt of Fin Institns. 3 Hours

MANAGEMENT OF FINANCIAL INSTITUTIONS - Integrated and comprehensive analysis of financial institutions that include depository institutions, insurance companies, securities firms, and investment companies. Prerequisite(s): FIN 371.

## FIN 475. Commerical Bank Mgt. 3 Hours

COMMERCIAL BANK MANAGEMENT - Explores the environment in which banks must operate, the financial statements of banks, and a thorough study of bank management topics which include: asset-liability management, the investment portfolio, sources of funds, and the loan portfolio. Prerequisite(s): FIN 301; (FIN 360 or FIN 371).

## FIN 479. Sem in Bnd Ptflo Mgt. 3 Hours

SEMINAR IN BOND PORTFOLIO MANAGEMENT - Theory and practice in active bond portfolio management. Literature and practical issues related to managing a bond fund. Seminar format; students are divided into teams, each responsible for a specific sector of the fixed income market. Prerequisite(s): FIN 301.

## FIN 480. Optns\&Futures Mkts. 3 Hours

OPTIONS AND FUTURES MARKETS - Study of options, futures, and other derivatives fundamentals, trading strategies, hedging, speculation, and arbitrating, pricing theories, and market regulations. Prerequisite(s): FIN 301; (FIN 360 or FIN 371).

## FIN 481. Fundmntal\&Tech Trdng. 3 Hours

FUNDAMENTAL AND TECHNICAL TRADING - The art and science of speculative foreign exchange trading, focusing on spot trading of Euros. Students implement a trading plan in a real foreign exchange environment under a set risk management policy. Students learn to watch the market, analyze profitable situations, and produce winning trades. Prerequisite(s): FIN 301.

## FIN 481L. Trading Lab. 1 Hour

TRADING LABORATORY - Prepares students to find positions in proprietary funds, hedge funds, and energy or commodity firms. Focuses on effective communication, rÃ®sumÃ® writing, interviewing techniques, job negotiation techniques, and the optimal use of e-mail and personal networks and references. Prerequisite(s): FIN 481 or FIN 482 (may be taken as a corequisite).

## FIN 482. Energy Markets. 3 Hours

ENERGY MARKETS - Energy market portfolio skills: physicality of natural gas market, natural gas pricing, natural gas portfolio transactions including hedging, basic risk management. VaR simulation produced, power pricing and risk management, weather hedging, credit derivatives and their use in energy. Oil basics and pricing a tolling agreement. Prerequisite(s): FIN 301.

## FIN 483. Applied Options Trdg. 3 Hours

APPLIED OPTIONS TRADING - Comprehensive and detailed analysis of options-pricing, risk characteristics, and their dynamic behavior in the context of the management of a portfolio of options. The underlying market used is the Euro/US dollar futures. The emphasis is on option strategic trading, position management, and the calculation of option risks and profit optimization. Prerequisite(s): FIN 301, 481.

## FIN 484. Adv Trdng Techniques. 3 Hours

ADVANCED TRADING TECHNIQUES - Topics include appropriate leverage, when to take profits, when to have a stop loss, and hedging strategies. Students will learn to write short-term trading plans encompassing fundamental news events and technical charting, then implement a longer view. Each student is expected to open a real micro account from $\$ 300-\$ 500$. Prerequisite(s): FIN 301, 481.

## FIN 485. Financial Modeling. 3 Hours

FINANCIAL MODELING - The objective is to strengthen students understanding of selected financial theory topics through the use of Excel and Visual Basic for Applications (VBA). The emphasis is on applying financial theory presented in other courses. Students learn how VBA significantly enhances the power of Excel. Prerequisite(s): FIN 301.

## FIN 486. Algrthmc MdIng Curr. 3 Hours

ALGORITHMIC MODELING IN CURRENCY - Algorithmic trading models are developed using spot contracts with Euros and Australian dollars. Students work in teams to implement hedging strategies of non-trending Euro risk with Australian dollars. Teams will meet and work with outside Flyer Forex Fund directors. Students need to be proficient in advanced Excel techniques. Prerequisite(s): FIN 301.

## FIN 487. Bond Derivatives Sem. 3 Hours

BOND DERIVATIVES SEMINAR - Topics include fixed income basics, bond futures, duration management, the repo market, callable bonds and bond ladders, asset backed securities and death bonds, mortgage backed securities, inflation bonds, Fed fund futures and binary options, and diversification and suitability analysis. Valuable for those seeking to pass level 2 of the CFA exam. Prerequisite(s): FIN 301.

## FIN 490. Pers Financial Cnslt. 3 Hours

PERSONAL FINANCIAL CONSULTING - Subject varies from time to time. May be taken more than once if the topic changes.

## FIN 491. Honors Thesis. 3 Hours

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.

## FIN 492. Honors Thesis. 3 Hours

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.

## FIN 493. Sem in Investments. 3 Hours

SEMINAR IN INVESTMENTS - Application of investment theory and techniques in a real-world setting. Students manage a funded portfolio in terms of establishing objectives, selecting securities to buy (sell), and evaluating portfolio performance. Emphasis is placed upon attempting to identify undervalued common stocks. Admission to the course is limited and must be approved by the instructor. Open only to Davis Center members. Prerequisite(s): FIN 360 and permission of department chair.

## FIN 496. Co-Op Work Term. 3 Hours

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. Finance majors only. Prerequisite(s): Permission of department chairperson.

## FIN 497. Internship. 1-3 Hours

INTERNSHIP FOR GENERAL ELECTIVE CREDIT - Practical work experience associated with career development and career exploration relating to the student's major. Permission of department chair or designee required. Does not replace finance courses for the finance major. Finance majors only. Prerequisite(s): Forty-five semester hours of credit.

## FIN 498. Studies in Finance. 1-6 Hours

INDEPENDENT STUDY IN FINANCE - 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(s): 3.0 GPA in Finance; minimum of nine semester hours in Finance; nomination by faculty; permission of department chairperson.

## International Business

Major:

- Bachelor of Science in Business Administration, International Business

Minor:

- International Business

The International Business major is an interdisciplinary major designed to meet the needs of students interested in different facets of the international area. It may be taken as a stand-alone major, in conjunction with a major or minor in a functional business discipline, or with a major or minor in a language.
In addition to other requirements, the International Business major requires ECO 460 or ECO 461, FIN 450, MGT 403, MKT 440, INB 302, ING 450 and one international elective. This elective may come from the courses listed above, which are not selected as a required course, or from the following international business electives: ACC 412 , INB 300, or MKT 445; 300 or 400 level language courses that are not part of a language major or minor; or from an international course outside the School of Business Administration that is approved by the

Director of International Business Programs. In addition, competency in a foreign language, which may be demonstrated by successful completion of two semesters of 200 language study or passing of the competency test given by the language department is required. This foreign language requirement is waived for double majors with another SBA major. An international learning experience is required. This may include participation in a study abroad program, attendance at an educational institution outside the United States, or an international business internship or co-op.

Terence Lau, Director

## Bachelor of Science in business administration with a major in International Business (INB)

| Liberal Arts Requirements |  | 48 |
| :---: | :---: | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: |  | 3 |
| PHL 313 | Business Ethics |  |
| REL 368 | Chr Ethics\&Bus World |  |
| Select one business writing requirement from: |  | 3 |
| ENG 370 | Rprt\&Proposal Wrtng |  |
| ENG 371 | Technical Commnicatn |  |
| ENG 372 | Business Commicatn |  |
| Select two natural science electives from: |  | 6 |
| BIO 101 | General Biology 1 |  |
| CHM 200 | Chemistry \& Society |  |
| GEO 109 | General Geology |  |
| PHY 105 | Phy Sci Energy \& Env |  |
| PHY 108 | Phy Sci-Light\&Color |  |
| Select one social science elective from: |  | 3 |
| ANT 150 | Cultural Anthropolgy |  |
| POL 101 | Global Politics |  |
| POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych |  |
| SOC 101 | Prin of Sociology |  |
| Art Study elective |  | 3 |
| HST elective (300/400 level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |


| BAI 151 | Bus Integratn Exp | 1 |
| :--- | :--- | :--- |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective | $(300 / 400$ level) | 3 |

Major Requirements

| ECO 460 | Eco Develop \& Growth (fills business requirement <br> of upper level ECO elective) | 3 |
| :--- | :--- | :---: |
| or ECO 461 | International Econ |  |
| FIN 450 | Interntl Bus Finance | 3 |
| INB 302 | Survey of Intl Bus | 3 |
| INB 450 | Capstone Intrnl Bus | 3 |
| MGT 403 | Cross-Cult Managemnt | 3 |
| MKT 440 | Global Marketing | 3 |
| International elective (see choices above) | 3 |  |
| Total Hours |  | 21 |

In addition, competency in a foreign language, which may be demonstrated by successful completion of two semesters of 200 language study or passing of the competency test given by the language department is required. This foreign language requirement is waived for double majors with another SBA major. An international learning experience is required.This may include:

- participation in a study abroad program
- attendance at an educational institution outside the United States
- an international business internship or co-op


## Minor in International Business (INB)

## International Business

| INB 302 | Survey of Intl Bus | 3 |
| :--- | :--- | :--- |
| INB 450 | Capstone Intrnl Bus | 3 |
| Select two courses from: | 6 |  |
| ECO 460 | Eco Develop \& Growth |  |
| ECO 461 | International Econ |  |
| FIN 450 | Interntl Bus Finance |  |
| INB 300 | Top-Int Bus\&Culture |  |
| MGT 403 | Cross-Cult Managemnt |  |
| MKT 440 | Global Marketing | 12 |
| Total Hours |  |  |

## Courses

## INB 300. Top-Int Bus\&Culture. 1-3 Hours

TOPICS IN INTERNATIONAL BUSINESS AND CULTURE - Comparative analysis of various cultures and their impact on international business operation. May be taken more than once if the topics or cultures change.

## INB 302. Survey of Intl Bus. 3 Hours

SURVEY OF INTERNATIONAL BUSINESS - Introduction to international business and how it is different from domestic business. Globalization and its effects, differences in cluture, political, and economic systems across borders. Required of International Business majors and minors.

## INB 350. Dng Bus Emrging Mkts. 3 Hours

DOING BUSINESS IN EMERGING MARKETS - This course is designed to give students an opportunity to explore and understand the challenges to global business in emerging markets, including those in Africa, Asia, Latin and Central America, the Middle East, and the former East Bloc. The course examines commonalities of different regions and countries while highlighting cultural, economic, and sociopolitical differences. Additionally, social responsibility and the emergence of micro-lending and nontraditional forms of business operation will be presented.

## INB 450. Capstone Intrnl Bus. 3 Hours

SEMINAR IN CURRENT GLOBAL ISSUES - Senior capstone seminar in International Business. An examination of factors necessary for global competitiveness including foreign direct investment, strategy of international business, entering foreign markets, global production and logistics, global marketing and R\&D, and global human resource management. Includes integrative project. Required of International Business majors and minors. Prerequisite(s): INB 302; senior standing.

## INB 491. Honors Thesis. 3 Hours

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 Honors Program and the International Business program director.

## INB 492. Honors Thesis. 3 Hours

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 Honors Program and the International Business program director.

## INB 497. Inship-Elective Cred. 1-3 Hours

INTERNATIONAL INTERNSHIP - Practical international work experience closely associated with student's major, minor, certificate program. Permission of program director required. See internship coordinator for details.

## Management and Marketing

Majors:

- Bachelor of Science in Business Administration, Entrepreneurship
- Bachelor of Science in Business Administration, Leadership
- Bachelor of Science in Business Administration, Marketing
- Bachelor of Science in Business Administration, Marketing Major with Sales Management Emphasis

Minors:

- Entrepreneurship
- Leadership
- Marketing

The management program offered by the management/marketing department includes a major or minor in two distinct areas: leadership and entrepreneurship. The department also offers a major or a minor in marketing.

Faculty
Dean B. McFarlin, Chairperson
NCR Professor of Global Leadership Development: McFarlin
Professors: Bickford, King, McFarlin, Sweeney
Associate Professors: Janney, Kiewitz, Lau
Assistant Professors: Kenworthy, Meek, Sullivan
Lecturers: Chelle, Forlani, Gentner, Miller
Adjunct Faculty: Brady, Csokasy, Dudon, Franks, June, Lewis, Wood

## Entrepreneurship

Students majoring or minoring in entrepreneurship will develop an understanding of how a business enterprise is conceived, launched, and sustained. The curriculum teaches students how to identify viable business opportunities and explores how such opportunities are transformed into new ventures. Additional emphasis is placed on how entrepreneurial ventures:

- Successfully compete for financial resources
- Successfully identify and reach their target markets
- Successfully establish business processes, systems, and controls to manage small and growth-oriented ventures.

Students must apply to and be accepted as an entrepreneurship major. The admissions process is selective and applications currently close on February 15 (date is subject to change). This is a firm deadline. Because entrepreneurship majors begin a two-course sequence in their sophomore year, the only opportunity to apply for admission into the major is during the winter semester of the first year. However, because many talented students who are interested in majoring in entrepreneurship transfer into the School of Business Administration at the end of their first year, non-SBA applicants will be considered through August 1 on a space available basis. Non-SBA students interested in the Entrepreneurship major cannot be admitted until they are officially transferred into the SBA. Normally, no more than 90 students are in each entering sophomore ENT major class.

A key feature of the entrepreneurship major is the Sophomore Experience in which student teams create micro-businesses and actually run them during their sophomore year. This experience is directed through the Crotty Center for Entrepreneurial Leadership and includes seminars with faculty and entrepreneurs who work with students to develop the essential knowledge, skills, and abilities for successfully running a micro business. Another key feature is the senior seminar in which students work as consultants with an entrepreneur to solve an actual problem within an existing entrepreneurial business. Entrepreneurship majors can also participate in the:

- Everest Real Estate Challenge (open to ENT majors only)
- Flyer Angels (a student-run investment organization open to ENT majors only)
- the UD Business Plan Competition (open to all students, see www.udbpc.com (catalog.udayton.edu/undergraduate/ schoolofbusinessadministration/programsofstudy/ managementandmarketing/www.udbpc.com))

For business majors, the minor in entrepreneurship consists of fifteen semester hours.

For non-business majors, the minor in entrepreneurship consists of eighteen semester hours.

## Bachelor of Science in business administration with a major in Entrepreneurship (ENT)

| Liberal Arts Requirements |  | 48 |
| :---: | :---: | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: |  | 3 |
| PHL 313 | Business Ethics |  |
| REL 368 | Chr Ethics\&Bus World |  |
| Select one business writing requirement from: |  | 3 |
| ENG 370 | Rprt\&Proposal Wrtng |  |
| ENG 371 | Technical Commnicatn |  |
| ENG 372 | Business Commicatn |  |
| Select two natural science electives from: |  | 6 |
| BIO 101 | General Biology I |  |
| CHM 200 | Chemistry \& Society |  |
| GEO 109 | General Geology |  |
| PHY 105 | Phy Sci Energy \& Env |  |
| PHY 108 | Phy Sci-Light\&Color |  |
| Select one social science elective from: |  | 3 |
| ANT 150 | Cultural Anthropolgy |  |
| POL 101 | Global Politics |  |
| POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych |  |
| SOC 101 | Prin of Sociology |  |
| Art Study elective |  | 3 |
| HST elective (300/400 level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |
| BAI 151 | Bus Integratn Exp | 1 |


| DSC 210 | Stats For Bus I | 3 |
| :---: | :---: | :---: |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective (300/400 level) |  | 3 |
| Major Requirements |  | 18 |
| MGT 220 | Entrep Soph Exper I (Must be taken first semester Sophomore Year) | 2 |
| MGT 221 | Entrep Soph Exper II (Must be taken second semester Sophomore Year) | 1 |
| MGT 320 | New Venture Creation | 3 |
| MGT 321 | Financing Entp Vent | 3 |
| MGT 430 | Senior Sem-Entrnshp | 3 |
| Select two courses from: |  | 6 |
| MGT 402 | Leadership\&Motivatn |  |
| MGT 420 | Enrepenrl Marketing |  |
| MGT 421 | Sm Business Managmnt |  |
| MGT 422 | Business Plans |  |
| MGT 423 | HRM /in Emergng Firms |  |
| MGT 424 | Family Business Mgt |  |
| MGT 429 | Curr Issues-Entrepen |  |
| MKT 435 | New Product Devlp |  |
| Minor in Entrepreneurship (ENT) |  |  |
| Entrepreneurship (business majors) |  |  |
| MGT 320 | New Venture Creation | 3 |
| MGT 321 | Financing Entp Vent | 3 |
| Select three courses from: ${ }^{1}$ |  | 9 |
| MGT 402 | Leadership\&Motivatn |  |
| MGT 420 | Enrepenrl Marketing |  |
| MGT 421 | Sm Business Managmnt |  |
| MGT 422 | Business Plans |  |
| MGT 423 | HRM /in Emergng Firms |  |
| MGT 424 | Family Business Mgt |  |
| MGT 425 | Franchising |  |
| MGT 429 | Curr Issues-Entrepen |  |
| MKT 435 | New Product Devlp |  |

Total Hours
1 A student minoring in entrepreneurship may petition the department chair to substitute other management courses in place of one, but not two, of these electives. The request will be considered in light of the student's overall academic program and career intention. It is recommended that the student speak to the department to determine the course offerings schedule.

| Entrepreneurship (non-business majors) |  |  |
| :---: | :---: | :---: |
| ACC 200 | Intro to Accounting | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 320 | New Venture Creation | 3 |
| MGT 321 | Financing Entp Vent | 3 |
| Select one course from: |  | 3 |
| MGT 402 | Leadership\&Motivatn |  |
| MGT 420 | Enrepenrl Marketing |  |
| MGT 421 | Sm Business Managmnt |  |
| MGT 422 | Business Plans |  |
| MGT 423 | HRM /in Emergng Firms |  |
| MGT 424 | Family Business Mgt |  |
| MGT 425 | Franchising |  |
| MGT 429 | Curr Issues-Entrepen |  |
| MKT 435 | New Product Devlp |  |
| Total Hours |  | 15 |

## Leadership

Students majoring or minoring in leadership will develop understanding and competencies in:

- Motivation
- Group dynamics
- Team processes
- Cross-cultural management
- Employee training and development
- Organizational design, development, and change

For the student majoring in leadership, a key component of the curriculum is the "bookend" experience that begins in the first semester of the junior year with co-registration in Organizational Behavior (MGT 301) and Managerial Skills (MGT 302). Knowledge, skills, and abilities gained in these two courses will be reinforced throughout the remaining leadership courses, and leadership majors are required to demonstrate working competencies in these areas in subsequent courses. To complete the "bookend" experience, leadership majors will register in their senior year for the capstone course, Seminar in Experiencing Leadership.

The management faculty strongly recommend that students completing the leadership major also complete a major or minor in another business discipline. Other majors or minors that are complementary include:

- Entrepreneurship
- Marketing
- Finance
- Operations management
- Accounting
- MIS

A leadership major combined with a major or minor in a business function creates an outstanding combination for employment.

## Bachelor of Science in business administration with a major in Leadership (LDR)

| Liberal Arts | Requirements | 48 |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |


| or CMM 112 | Persuasive Public Sp |  |
| :--- | :--- | :--- |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: | 3 |  |

$\begin{array}{ll}\text { PHL } 313 & \text { Business Ethics } \\ \text { REL } 368 & \text { Chr Ethics\&Bus World }\end{array}$
Select one business writing requirement from: 3

| ENG 370 | Rprt\&Proposal Wrtng |
| :--- | :--- |
| ENG 371 | Technical Commnicatn |
| ENG 372 | Business Commicatn |

Select two natural science electives from:

| BIO 101 | General Biology I |
| :--- | :--- |
| CHM 200 | Chemistry \& Society |
| GEO 109 | General Geology |
| PHY 105 | Phy Sci Energy \& Env |
| PHY 108 | Phy Sci-Light\&Color |
| Select one social science elective from: |  |

Select one social science elective from: 3

| ANT 150 | Cultural Anthropolgy |
| :--- | :--- |
| POL 101 | Global Politics |
| POL 201 | Amer Political Systems |
| PSY 101 | Introductory Psych |
| SOC 101 | Prin of Sociology |

Art Study elective

HST elective ( $300 / 400$ level) 3
PHL/REL elective (300/400 level) 3
Business Requirements 45
ACC 207 Intro-Financial Acc 3
ACC 208 Intro-Managerial Acc 3
BAI 150 Bus Educ Planning 1
BAI 103L Bus Computing Lab 1
BAI 151 Bus Integratn Exp 1
DSC 210 Stats For Bus I 3
DSC 211 Stats For Bus II 3
ECO 203 Prin of Microecon 3
ECO 204 Prin of Macroecon 3
FIN 301 Intro to Financial Mgt 3
MGT 201 Legal Envirnmt-Bus 3
MGT 301 Organiztnl Behavior 3
MGT $490 \quad$ Managing the Entrpse 3
MIS 301 Info Sys in Org 3
MKT $301 \quad$ Prin of Marketing 3
OPS 301 Survy-Oper\&Supply Mgt 3
ECO elective (300/400 level) 3
Major Requirements 18
MGT 302 Managerial Skills 3

| MGT 401 | Orgn,Dsn,Cul\&Change | 3 |
| :--- | :--- | :--- |
| MGT 402 | Leadership\&Motivatn | 3 |
| MGT 410 | Senior Sem-Lrdshp | 3 |
| Select two courses from: | 6 |  |


| MGT 403 | Cross-Cult Managemnt |
| :--- | :--- |
| MGT 404 | Group Dynamics |
| MGT 405 | Employee Traing\&Dev |
| MGT 409 | Curr Iss-L'ship |
| MGT 423 | HRM /in Emergng Firms |
| MGT 425 | Franchising |
| MKT 411 | Sales Management |

## Minor in Leadership (LDR)

| Leadership |  | 3 |
| :--- | :--- | :--- |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 401 | Orgn,Dsn,Cul\&Change | 3 |
| MGT 402 | Leadership\&Motivatn | 6 |


| MGT 302 | Managerial Skills |
| :--- | :--- |
| MGT 403 | Cross-Cult Managemnt |
| MGT 404 | Group Dynamics |
| MGT 405 | Employee Traing\&Dev |
| MGT 409 | Curr Iss-L'ship |
| MGT 423 | HRM /in Emergng Firms |
| MGT 425 | Franchising |
| MGT 429 | Curr Issues-Entrepen |
| MKT 411 | Sales Management |
| Total Hours |  |

1 A student minoring in Leadership may petition the department chair to substitute other Management courses in place of one, but not two, of these electives. The request will be considered in light of the student's overall academic program and career intentions.

## Marketing

A student with a major or minor in marketing learns systematic ways for identifying, understanding, and satisfying consumer and organizational needs. Courses in the major are designed to instill in students an appreciation for both the total marketing process as well as specialized marketing activities such as:

- Purchasing
- Sales
- Retailing
- Brand management
- Marketing research

They likewise focus on how to integrate the marketing process with the objectives of the organization, the functions of the economy, and the constraints of society from national and global perspectives. Students learn to apply conceptual principles and quantitative techniques in their study of consumer and business markets with the goal of becoming informed, skilled, and competent marketing professionals. Marketing majors also have the option to earn an emphasis in Sales Management as part of their major. Specifically, to earn the emphasis, majors must select all three of their electives from a required list of marketing courses that focus on sales and associated issues. This emphasis is very
attractive to many prospective employers. The marketing program also competes annually in the National Collegiate Sales Competition. Marketing majors wishing to participate in the competition apply to be on the UD team in the fall.

Marketing majors frequently combine their academic studies with either a co-op or internship work experience. General elective credit for such experiences is approved on a case-by-case basis with the criteria being the nature of the experience and its degree of integration into the student's academic program as well as successful completion of internship/co-op preparation activities required by the department. Junior and senior marketing majors can also apply to participate in the P\&G Marketing Challenge, a competition conducted every semester for marketing students.

## Faculty

Dean B. McFarlin, Chairperson
Associate Professors: Pan, Sparks, Wells
Assistant Professors: Davidson, Durmusoglu, Harmon, Hirunyawipada, Watson
Lecturers: Dickey, Krystofik
Adjunct Faculty: Blanford, Sinnott, Woeste

## Bachelor of Science in business administration with a major in Marketing (MKT)

| Liberal Arts Requirements | 48 |  |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: | 3 |  |


| PHL 313 | Business Ethics |
| :---: | :--- |
| REL 368 | Chr Ethics\&Bus World |
| Select one business writing requirement from: | 3 |


| ENG 370 | Rprt\&Proposal Wrtng |
| :---: | :--- |
| ENG 371 | Technical Commnicatn |
| ENG 372 | Business Commicatn |
| Select two natural science electives from: |  |


| BIO 101 | General Biology I |
| :--- | :--- |
| CHM 200 | Chemistry \& Society |
| GEO 109 | General Geology |
| PHY 105 | Phy Sci Energy \& Env |
| PHY 108 | Phy Sci-Light\&Color |

Select one social science elective from:

| ANT 150 | Cultural Anthropolgy |
| :--- | :--- |
| POL 101 | Global Politics |
| POL 201 | Amer Political Systems |
| PSY 101 | Introductory Psych |


| SOC 101 | Prin of Sociology |  |
| :---: | :---: | :---: |
| Art Study elective |  | 3 |
| HST elective (300/400 level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |
| BAI 151 | Bus Integratn Exp | 1 |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective (300/400 level) |  | 3 |
| Major Requirements |  | 18 |
| MKT 450 | Buyer Behvr\&Mkt Anly | 6 |
| MKT 455 | Mkt Planning\&Stratgy | 3 |
| Select three | electives ${ }^{1}$ | 9 |

1 To earn an emphasis in Sales Management as part of their Marketing major, students must take MKT 310 (Principles of Selling), MKT 411 (Sales Management), and any ONE of the following three courses: MKT 350 (Internet Marketing), MKT 420 (Entrepreneurial Marketing), or MKT 428 (Promotion Management). Marketing majors may also select MIS 467 (Data Warehousing) as a marketing elective if they are double majoring in MIS.

## Minor in Marketing (MKT)

| Marketing (business majors) |  |
| :---: | :---: |
| MKT 301 Prin of Marketing | 3 |
| Select four MKT electives (300/400 level) ${ }^{1}$ | 12 |
| Total Hours | 15 |
| Marketing (non-business majors) |  |
| MKT 300 Survey of MKT | 3 |
| Select four MKT electives (300/400 level) ${ }^{1}$ | 12 |
| Total Hours | 15 |

1 In a pattern selected in consultation with an academic advisor.

## Management Courses

MGT 201. Legal Envirnmt-Bus. 3 Hours
LEGAL ENVIRONMENT OF BUSINESS - Survey of the legal environment in which businesses operates. Includes overview of legal system and judicial processes and coverage of constitutional principles for U.S. legal system, ways to resolve legal disputes, forms of business organization, legal issues relevant to employment, legal responsibility of businesses to clients and customers, and liability issues. Prerequisite(s): Sophomore standing.

MGT 220. Entrep Soph Exper I. 2 Hours
ENTREPRENEURSHIP SOPHOMORE EXPERIENCE I - First of twocourse sequence. Designed to immerse Entrepreneurship major into the dynamics of starting and running a micro-business. Focuses on identifying market need, researching financial viability of business venture to meet that need, and marshalling the resources (among them, financial, human, technical, and motivational) to launch the business. Course is coordinated through the Crotty Center for Entrepreneurial Leadership. Prerequisite(s): Entrepreneurship major; sophomore standing; overall 2.7 GPA. Corequisite(s): ACC 207; MGT 201.

MGT 221. Entrep Soph Exper II. 1 Hour
ENTREPRENEURSHIP SOPHOMORE EXPERIENCE II - Continuation of MGT 220. Focuses on growing and running the micro-business throughout the academic year with planned liquidation or shutdown by the end of the academic year. Course is coordinated through the Crotty Center for Entrepreneurial Leadership. Prerequisite(s): ACC 207; MGT 201, MGT 220; Entrepreneurship major; overall 2.7 GPA. Corequisite(s): ACC 208.

## MGT 301. Organiztnl Behavior. 3 Hours

ORGANIZATIONAL BEHAVIOR - Study of individual, group, and team behavior in organizations as they interact to achieve both personal and organizational goals. Topics include individual differences, interpersonal communication, leadership, decision-making, reward systems, conflict management, and work groups and teams Prerequisite(s): Sophomore standing.

## MGT 302. Managerial Skills. 3 Hours

MANAGERIAL SKILLS - Course focuses on knowledge, skills and abilities in oral and written communication, decision-making, and facilitation of conflict management and group/team management. Demonstrated working competencies are required to complete the course. Prerequisite(s): Sophomore standing.

## MGT 313. Negotiation. 3 Hours

NEGOTIATION - Course integrates conceptual understanding with practical application of negotiation and examines cultural and gender differences in negotiation, influence of personality traits, the negotiation process, and different ways in which to negotiate. Demonstrated knowledge, skills and abilities are part of course requirements. Prerequisite(s): MGT 301; junior standing.

## MGT 314. Survey-Hum Resources. 3 Hours

SURVEY OF HUMAN RESOURCES - Survey course designed to familiarize students with the major functional areas in human resources including planning, recruitment and selection, training and development, compensation, benefits, safety, and employee relations. Course develops framework for understanding the roles of HR professional, issues faced by managers and supervisors, and application of sound management theory to these issues. Prerequisite(s): Junior standing.

## MGT 318. Management\&Society. 3 Hours

MANAGEMENT AND SOCIETY - Study of business firms' relationship with society through examination of influence of the competitive environment, government, interest groups, and lobbyists in the public policy process. Subjects include technological changes, racism, poverty, diversity, urban issues, and environmental concerns. Prerequisite(s): Junior standing.

## MGT 320. New Venture Creation. 3 Hours

NEW VENTURE CREATION - Overview of the concepts and aspects involving creation of new business ventures, new product development, and innovation within existing companies now popularly called corporate venturing. Topics include entry strategies, creating high potential opportunities, entrepreneurial finance, business plan development, entrepreneurial marketing, the legal structures of new businesses, and government programs for assisting entrepreneurial firms. Fall sections open to Entrepreneurship majors only with overall 2.7 GPA. Prerequisite(s): (ACC 200 or ACC 208); MGT 201; junior standing.

## MGT 321. Financing Entp Vent. 3 Hours

FINANCING ENTREPRENEURIAL VENTURES - Focuses on financial aspects of starting, growing, and harvesting entrepreneurial ventures. Includes assessments of various sources of capital for small and growth businesses with emphasis placed on how common financing deals are structured, common financing pitfalls, and various legal documentation used to consummate financial transactions. Fall sections open to Entrepreneurship majors only with overall 2.7 GPA. Prerequisite(s): ACC 200 or (ACC 207, ACC 208); junior standing. Corequisite(s): FIN 301 or MGT 320.

## MGT 401. Orgn,Dsn,Cul\&Change. 3 Hours

ORGANIZATIONAL DESIGN, CULTURE AND CHANGE - Course focused at the organizational level of analysis that includes design of organizations, development of organizational culture, and other issues of organizational change. Topics include processes for organizational design and change, power, and information processing. Prerequisite(s): MGT 301; junior standing.

## MGT 402. Leadership\&Motivatn. 3 Hours

LEADERSHIP AND MOTIVATION - An in-depth study of individual and group/team motivation in an organizational setting through examination of individual, organizational, and societal influences on motivation. Focus is on how leaders can understand, and then affect, motivation through a variety of mechanisms. Prerequisite(s): MGT 301; junior standing.

## MGT 403. Cross-Cult Managemnt. 3 Hours

CROSS-CULTURAL MANAGEMENT - Study of general cross-cultural differences and development of cross-cultural frameworks in decisionmaking, negotiation, conflict management, communication, and general business relations. Primary emphasis is on understanding how and why cultures differ and how such differences can be managed. Prerequisite(s): MGT 301; junior standing.

## MGT 404. Group Dynamics. 3 Hours

GROUP DYNAMICS, TEAM PROCESSES AND DECISION MAKING - In-depth study of group formation, team design, and diagnosis with emphasis on developing and maintaining different types of groups and teams. Course focuses on leaders' knowledge, skills and abilities to work effectively with teams and groups. Prerequisite(s): MGT 301; junior standing.

## MGT 405. Employee Traing\&Dev. 3 Hours

EMPLOYEE TRAINING AND DEVELOPMENT - Focuses on training and learning methods and models, career paths, and self-improvement methods within the balance of organizational, job, and individual needs. Additional emphasis on systematic development and evaluation of training programs and role of organizational leader in ensuring employee training and development. Prerequisite(s): MGT 301; junior standing.

## MGT 409. Curr Iss-L'ship. 3 Hours

CURRENT ISSUES IN LEADERSHIP - Selected topics that consider and analyze current problems and emerging issues in leadership and in the leader's role in promoting effective organizational change and development. Prerequisite(s): MGT 301; junior standing.

## MGT 410. Senior Sem-Lrdshp. 3 Hours

SENIOR SEMINAR IN EXPERIENCING LEADERSHIP - Focus on integration of knowledge, skills and abilities acquired in leadership major courses. Seminar combines classroom component with relevant and approved internship or consulting project to integrate the study of leadership with its practice. Prerequisite(s): MGT 401, MGT 402; Leadership major; senior standing.

## MGT 414. Multinantinl Corp Mgt. 3 Hours

MULTINATIONAL CORPORATE MANAGEMENT - Introduction to use of strategic management in international context with examination of different strategic and tactical approaches organizations use to manage international operations. Prerequisite(s): Senior standing.

## MGT 420. Enrepenrl Marketing. 3 Hours

ENTREPRENEURIAL MARKETING - Study of the techniques used to profitably identify and fill customers' needs when operating with a limited budget during the early stages of a start-up or in a small to medium sized firm. Course strives to develop skills in applying basic marketing principles and high impact sales and promotion techniques in integrated manner to produce a practical, cost-effective action plan for start-ups and smaller companies. Also listed as MKT 420. Prerequisite(s): MKT 300 or MKT 301; junior standing.

## MGT 421. Sm Business Managmnt. 3 Hours

SMALL BUSINESS MANAGEMENT - Course addresses unique characteristics of small businesses (e.g., resource limitations, family participation) and grapples with ways to overcome the "liability of smallness." Coverage includes effect of macro-trends (e.g., changing technology and globalization) on small business, review of topics from functionally-oriented courses, examination of how functional models such as pricing models can be modified for small business use, and ways for small business to identify and exploit weaknesses of larger, better financed competitors. Prerequisite(s): ACC 200 or 208; MGT 201; junior standing.

## MGT 422. Business Plans. 3 Hours

BUSINES PLANS FOR EMERGING FIRMS - This course explores multiple business models for launching a new venture. Business models are examined in terms of the type of product/service being offered as well as the goals of the entrepreneur, firm growth, and time to market. The benefits and costs of different types of business plans will be examined relative to the opportunities that students may wish to pursue. Students taking this course must have a potential business opportunity in mind. Prerequisite(s): MGT 320, MGT 321; junior standing; ENT major; permission of department chairperson.

## MGT 423. HRM /in Emergng Firms. 3 Hours

HUMAN RESOURCE MANAGEMENT IN THE EMERGING FIRM - This course explores issues unique to the human resource management (HRM) needs and challenges facing entrepreneurs and their firms. Emphasis is placed on how entrepreneurs can create effective HRM systems in the areas of staffing, recruitment and selection, compensation, motivations, and employee development. Care will be given to address the changes in HRM needs as the firm evolves through several transitional stages. Prerequisite(s): MGT 301 ; junior standing.

## MGT 424. Family Business Mgt. 3 Hours

FAMILY BUSINESS MANAGEMENT - This course explores topics relevant to entrepreneurs within the family business environment. Specific topics examined will include how family businesses emerge and evolve as well as the unique challenges often found in family business context (e.g., dealing with family conflicts, how to motivate and evaluate employees when a mix of family and non-members are involved, and planning for succession). Prerequisite(s): MGT 320, MGT 321; junior standing.

## MGT 425. Franchising. 3 Hours

FRANCHISING - Provides an overview of business franchising and how franchising can be used to grow a business concept. Students will learn how franchises operate and when to use franchising as a business model. Understanding the complexities of franchising (e.g. which ideas can be franchised, pricing strategies, and territory management) and the keys to success (e.g., the importance of communications, networking, teamwork, leadership) are important goals of the course. Counts as elective credit for ENT/LDR majors and minors. Prerequisite(s): Junior standing; ENT/LDR majors and minors only.

## MGT 429. Curr Issues-Entrepen. 3 Hours

CURRENT ISSUES IN ENTREPRENEURSHIP - In-depth examination of selected contemporary topics relevant to entrepreneurship. Subject matter may vary each semester. May be taken only once for credit toward Entrepreneurship major or minor. Prerequisite(s): Junior standing.

## MGT 430. Senior Sem-Entrnshp. 3 Hours

SENIOR SEMINAR IN ENTREPRENEURSHIP - Project-based capstone learning experience for Entrepreneurship major. Course objective is to integrate prior coursework through completion of a consulting project with local entrepreneurial firm, including business plan revision, market research, feasibility testing, financial modeling and analysis, and operations analysis. Course is coordinated through the Crotty Center for Entrepreneurial Leadership. Prerequisite(s): MGT 301, MGT 320, MGT
321; Entrepreneurship major; senior standing; 2.7 overall GPA or higher.

## MGT 490. Managing the Entrpse. 3 Hours

MANAGING THE ENTERPRISE - Course focuses on creating understanding of how concepts and analytical tools learned in other business courses are integrated in practice to create a unified whole. Students learn how general and top managers gather and use information to influence organizational mission, goals, and strategies. Course typically relies heavily on cases and/or business simulation. Prerequisite(s): DSC 211: FIN 301; MGT 301; MIS 301; MKT 301; OPS 301; senior standing; Business majors only.

## MGT 491. Honors Thesis. 3 Hours

HONORS THESIS - Selection, design, investigation, and completion of an independent and original research thesis under guidance of departmental faculty member. Prerequisite(s): University Honors Program participant; permission of department chairperson and director of Honors Program; senior standing.

## MGT 492. Honors Thesis. 3 Hours

HONORS THESIS - Selection, design, investigation, and completion of an independent and original research thesis under guidance of departmental faculty member. Prerequisite(s): University Honors Program participant; permission of department chairperson and director of Honors Program; senior standing.

## MGT 494. Seminar in MGT. 3 Hours

SEMINAR IN MANAGEMENT - Study of selected topics or issues in contemporary managerial practice, domestic or international. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. Prerequisite(s): Vary by topic; junior standing.

## MGT 497. Internship. 1-3 Hours

INTERNSHIP FOR GENERAL ELECTIVE CREDIT - Supervised work experience in partnership with sponsoring employer that is directly relevant to major or minor. Must work with internship coordinator and get approval of department chairperson or designee. May be used for general elective credit only. Prerequisite(s): Entrepreneurship or Leadership major; junior standing; overall GPA of 2.7 or higher; permisson of Internship Coordinator.

## MGT 498. Co-op Education Prog. 1-3 Hours

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 or designee required. May be used for general elective credit only. LDR or ENT majors only. Prerequisite(s): Overall GPA of 2.7 or higher.

## MGT 499. Independent Study. 1-3 Hours

INDEPENDENT STUDY - Supervised study involving directed readings, individual research (library, field, or experimental), or projects in specialized area of management. May be taken only once. May count as general elective credit. Does not apply to requirements for Leadership or Entrepreneurship major or minor. Prerequisite(s): MGT 301; ENT or LDR major; senior standing; sponsorship by faculty member; permission of department chairperson.

## Marketing Courses

MKT 300. Survey of MKT. 3 Hours
SURVEY OF MARKETING - Survey of marketing for non-marketing majors. Course introduces students to market and environmental analysis, marketing strategy and link with corporate strategy, market segmentation, organizational and consumer markets, and marketing mix (product, price, promotion, distribution). Prerequisite(s): Non-business majors only; sophomore standing.

## MKT 301. Prin of Marketing. 3 Hours

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(s): Business majors only; sophomore standing.

## MKT 310. Prin of Selling. 3 Hours

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(s): MKT 300 or MKT 301.

## MKT 315. Retail Marketing. 3 Hours

RETAIL MARKETING - 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(s): MKT 300 or MKT 301.

## MKT 330. Services Marketing. 3 Hours

SERVICES MARKETING - Basic concepts of services marketing including discussion of marketing concepts and their management implications in services organizations, the scope of ethics and social responsibility at the national and global levels, and how the external environment, both domestic and international, influences organization strategy. Prerequisite(s): MKT 300 or MKT 301.

## MKT 340. Multicultrl Mkt Anly. 3 Hours

MULTICULTURAL MARKETING ANALYSIS - Study of basic concepts and theories of multicultural marketing. Students acquire basic understanding of culture, awareness of cultural differences, and appreciation of importance of cultural adaptation for marketing program, especially as related to development of marketing systems. Prerequisite(s): MKT 300 or MKT 301.

## MKT 341. Bus To Bus Marketing. 3 Hours

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(s): MKT 300 or MKT 301.

## MKT 350. Internet \& E-Mkt. 3 Hours

INTERNET AND ELECTRONIC MARKETING - Comprehensive study of the internet as a marketing channel and as an economic and social phenomenon. Emphasis is on role of internet in firm's overall marketing efforts, especially marketing mix, target markets, and external environment; principles of e-commerce; and application of course knowledge in a managerial and decision-making context. Prerequisite(s): MKT 300 or MKT 301.

## MKT 405. Consumer Behavior. 3 Hours

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(s): MKT 300 or MKT 301.

## MKT 406. Marketing Channels. 3 Hours

MARKETING CHANNELS - Study of the place element of the marketing mix. A focus on the relationships among manufacturers, wholesalers, and retailers. Channel structure and design including franchising. Prerequisite(s): MKT 300 or MKT 301.

## MKT 411. Sales Management. 3 Hours

SALES MANAGEMENT - The structure of the sales organization; determination of sales policies; selection, training, and motivation of salespersons; establishing sales territories and quotas. Prerequisite(s): (MKT 300 or MKT 301); MKT 310.

## MKT 420. Entrpnrl Marketing. 3 Hours

ENTREPRENEURIAL MARKETING - Study of the techniques used to profitably identify and fill customers' needs when operating within a limited budget during the early stages of a start-up or in a small to medium sized firm. Course strives to develop skills in applying basic marketing principles and high impact sales and promotion techniques in integrated manner to produce a practical, cost-effective action plan for start-ups and smaller companies. Also listed as MGT 420. Prerequisite(s): MKT 300 or MKT 301.

## MKT 421. Advertising. 3 Hours

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(s): MKT 300 or MKT 301.

## MKT 428. Promotion Mgmnt. 3 Hours

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(s): MKT 300 or MKT 301.

## MKT 435. New Product Devlp. 3 Hours

NEW PRODUCT DEVELOPMENT - 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(s): MKT 300 or MKT 301.

## MKT 436. MKT Intelligence. 3 Hours

MARKETING INTELLIGENCE - This course provides an examination of how consumer marketing is evolving in the context of consumer behavior analysis, personalized marketing channels, and computer automation tools. The focus is on analyzing personalized consumer marketing based on consumer behavior. Prerequisite(s): MKT 300 or MKT 301.

## MKT 440. Global Marketing. 3 Hours

GLOBAL 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(s): MKT 300 or MKT 301.

## MKT 445. Sp Top: Internal Mkt. 3 Hours

SPECIAL TOPICS IN INTERNATIONAL MARKETING - Study abroad program. Subject varies from time to time. May be taken more than once if topic changes Prerequisite(s): Junior standing.

## MKT 450. Buyer Behvr\&Mkt Anly. 6 Hours

BUYER BEHAVIOR AND MARKET ANALYSIS - Integration of theoretical components of buyer behavior and marketing research. Emphasis placed on how marketing managers use concepts from these bodies of knowledge to make better decisions. Topics include common processes and methods of contemporary market research, analysis of purchase decisions, market research techniques used to gather information about purchase decisions, and use of information to formulate and implement a marketing strategy. Prerequisite(s): MKT 301; Marketing major; junior standing.

## MKT 455. Mkt Planning\&Stratgy. 3 Hours

MARKETING PLANNING AND STRATEGY - Integrative course in marketing with emphasis on managerial decision making. The course is designed around a strategic marketing planning approach with a clear emphasis on how to do strategic analysis and marketing planning. Prerequisite(s): ACC 207, ACC 208; MKT 450; Marketing major.

## MKT 491. Honors Thesis. 3 Hours

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.

## MKT 492. Honor Thesis. 3 Hours

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.

## MKT 494. Sp Top: Marketing. 3 Hours

SPECIAL TOPICS IN MARKETING - Subject varies from time to time. May be taken more than once if topic changes. Prerequisite(s): Vary by topic.

## MKT 497. Internship. 1-3 Hours

INTERNSHIP FOR GENERAL ELECTIVE CREDIT - Practical work experience associated with career development and career exploration. See internship coordinator for details. Permission of department chair or designee required. Prerequisite(s): MKT major; junior standing; overall gpa of 2.7 or higher; permission of internship coordinator.

## MKT 498. Co-Op Education. 1-3 Hours

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 or designee required. For general elective credit only. Prerequisite(s): MKT major; overall gpa of 2.7 or higher.

## MKT 499. Independent Study. 1-3 Hours

INDEPENDENT STUDY 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 or designee required. Prerequisite(s): MKT 301; MKT major; senior standing; permission of department chairperson.

# Management Information Systems, Operations Management and Decision Sciences 

Majors:

- Bachelor of Science in Business Administration, Management Information Systems
- Bachelor of Science in Business Administration, Operations and Supply Management

Minors:

- Management Information Systems
- Business Intelligence
- Cyber Security
- Operations and Supply Management
- Business Analytics

The Department of Management Information Systems, Operations Management, and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems, a major and minor in operations and supply management, and minors in business analytics, business intelligence and cyber-security.

## Faculty

E. James Dunne, Chairperson

Professor Emeritus and Distinguished Service Professor: Bohlen Professors Emeriti: Amsden, Casey, Hoffer, Vlahos
Sherman-Standard Register Professor of MIS: Thomas Ferratt
Niehaus Chair in Operations Management: John Kanet
Professors: Dunne, Ferratt, Gorman, Kanet, Wells
Associate Professors: Enns, Prasad, Salisbury
Assistant Professors: Harrod, Jacobs, Wynn
Lecturers: Davis, Hall, Wagner

## Management Information Systems

The MIS major at the University of Dayton is designed primarily to develop business systems analysts. These professionals analyze and design information systems in business organizations and marshal resources (i.e. manage projects) to bring the systems development effort to successful completion. MIS professionals also facilitate the successful operation and maintenance of organizational information systems.
The major is comprised of eighteen hours (seven courses) of required courses which make up the MIS core and nine hours (three courses) of elective courses taken for breadth or in a focused emphasis. Emphases are designed to enable the MIS major to gain additional depth in a specific area of MIS practice and to facilitate double-majors or minors in other business disciplines. Specific emphases will change from time to time, reflecting the dynamic nature of the MIS discipline. Students should meet with their advisor to decide whether to opt for the breadth option or to select an appropriate emphasis and/or second major/minor consistent with their interests and career goals.
The MIS emphases currently offered are Business Intelligence Emphasis, the Cyber Security Emphasis and the Breadth Option. See elective course selections for each emphasis following the requirements for Bachelor of Science with a Major in Management Information Systems.

## Faculty

E. James Dunne, Chairperson

Professor Emeritus and Distinguished Service Professor: Bohlen
Professors Emeriti: Amsden, Casey, Hoffer, Vlahos
Sherman-Standard Register Endowed Chair in MIS: Ferratt
Niehaus Chair in Operations Management: Kanet
Professors: Dunne, Ferratt, Kanet, Wells
Associate Professors: Enns, Gorman, Prasad, Salisbury
Assistant Professors: Harrod, Jacobs, Wynn
Lecturers: Davis, Hall, Wagner

## Bachelor of Science in business administration with a major in Management Information Systems (MIS)

| Liberal Arts Requirements | 48 |  |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: | 3 |  |


| PHL 313 | Business Ethics |
| :--- | :--- |
| REL 368 | Chr Ethics\&Bus World |
| Select one business writing requirement from: | 3 |


| ENG 370 | Rprt\&Proposal Wrtng |
| :--- | :--- |
| ENG 371 | Technical Commnicatn |
| ENG 372 | Business Commicatn |

Select two natural science electives from: 6

| BIO 101 | General Biology I |
| :--- | :--- |
| CHM 200 | Chemistry \& Society |
| GEO 109 | General Geology |
| PHY 105 | Phy Sci Energy \& Env |
| PHY 108 | Phy Sci-Light\&Color |

Select one social science elective from: 3

| ANT 150 | Cultural Anthropolgy |
| :--- | :--- |
| POL 101 | Global Politics |
| POL 201 | Amer Political Systems |
| PSY 101 | Introductory Psych |
| SOC 101 | Prin of Sociology |


| Art Study elective | 3 |  |
| :--- | :---: | :---: |
| HST elective (300/400 level) | 3 |  |
| PHL/REL elective (300/400 level) | 3 |  |
| Business Requirements | 45 |  |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |

BAI 151 Bus Integratn Exp 1
DSC 210 Stats For Bus I 3
DSC 211 Stats For Bus II 3
ECO 203 Prin of Microecon 3
ECO 204 Prin of Macroecon 3
FIN 301 Intro to Financial Mgt 3
MGT 201 Legal Envirnmt-Bus 3
MGT 301 Organiztnl Behavior 3
MGT $490 \quad$ Managing the Entrpse 3
MIS 301 Info Sys in Org 3
MKT $301 \quad$ Prin of Marketing 3
OPS 301 Survy-Oper\&Supply Mgt 3
ECO elective (300/400 level) 3
Major Requirements

| MIS 305 | Prb Slvg wth Vis Tls | 1 |
| :--- | :--- | :--- |
| MIS 325 | Programming-Bus Sys | 4 |
| MIS 380 | Sys Anly \& Re-engr | 3 |
| MIS 381 | Prin of Project Mgt | 1 |
| MIS 385 | Sys Implmntn-DBMS | 3 |
| MIS 465 | Pjr I-Anl\&Dsn-Teams | 3 |
| MIS 475 | Prj Il-Dsn\&Implm-Tms | 3 |
| Track Courses for Breadth, Business Intelligence or Cyber Security | 9 |  |
| (see course selections below) |  |  |
| Total Hours | 27 |  |

## Breadth Option

Select three courses (at least two must be MIS) from: 9

| DSC 375 | Management Science |
| :--- | :--- |
| ECO 410 | Bus\&Eco Forecasting |
| ECO 441 | Econometrics |
| MIS 366 | Business Intelligence |
| MIS 368 | Prin of Infmtn Sec Mgt |
| MIS 430 | Telecommntns\&Netwrkg |
| MIS 460 | Adv Web Development |
| MIS 467 | Data Warehousing |
| MIS 468 | Internet Security |
| MIS 499 | Indep Study in MIS |
| MKT 436 | MKT Intelligence |
| OPS 350 | Bus Process Mgt |

Business Intelligence Emphasis
MIS $366 \quad$ Business Intelligence 3
MIS 467 Data Warehousing 3
Select one course from: 3

| DSC 375 | Management Science |
| :--- | :--- |
| ECO 410 | Bus\&Eco Forecasting |
| ECO 441 | Econometrics |
| MIS 368 | Prin of Infmtn Sec Mgt |
| MIS 460 | Adv Web Development |
| MIS 499 | Indep Study in MIS |
| MKT 436 | MKT Intelligence |

MIS $368 \quad$ Prin of Infmtn Sec Mgt 3

| MIS 430 | Telecommntns\&Netwrkg | 3 |
| :--- | :--- | :--- |
| MIS 468 | Internet Security | 3 |

## Minors in Management Information Systems (MIS)

Three minors are offered in Management Information Systems: Business Intelligence, Cyber-Security, and Management Information Systems.

| Business Intelligence |  |  |
| :--- | :--- | :--- |
| MIS 300 | Survey of Mgt Info Sys | 3 |
| or MIS 301 | Info Sys in Org |  |
| MIS 305 | Prb SIvg wth Vis Tls | 1 |
| MIS 366 | Business Intelligence | 3 |
| MIS 385 | Sys ImpImntn-DBMS | 3 |
| MIS 467 | Data Warehousing | 3 |
| MIS elective |  | 3 |
| Total Hours |  | 16 |


| Cyber-Security |  |  |
| :--- | :--- | :---: |
| MIS 300 | Survey of Mgt Info Sys | 3 |
| or MIS 301 | Info Sys in Org |  |
| MIS 305 | Prb Slvg wth Vis TIs | 1 |
| MIS 368 | Prin of Infmtn Sec Mgt | 3 |
| MIS 430 | Telecommntns\&Netwrkg | 3 |
| MIS 468 | Internet Security | 3 |
| MIS elective |  | 3 |
| Total Hours |  | 16 |

## Management Information Systems

| MIS 300 | Survey of Mgt Info Sys | 3 |
| :--- | :--- | :--- |
| or MIS 301 | Info Sys in Org |  |
| MIS 305 | Prb Slvg wth Vis Tls | 1 |
| MIS 380 | Sys Anly \& Re-engr | 3 |
| MIS 381 | Prin of Project Mgt | 1 |
| MIS 385 | Sys Implmntn-DBMS | 3 |
| Two 300/400 level courses ${ }^{1}$ | 6 |  |
| T |  |  |

1 Select six additional semester hours: at least three hours must be a 300 or 400 level MIS course (excluding MIS 491, MIS 492, MIS 497, MIS 498, and MIS 499); three additional hours may be either from the list of approved relevant major courses or another 300 or 400 level MIS course (excluding those listed above). A relevant major course is one that features concepts intended to bridge between the MIS minor and the student's major. For the list of approved relevant major courses see the MIS minor coordinator. Other courses may be taken with approval of the MIS minor coordinator, in consultation with the student's major advisor(s). Currently approved relevant major courses are: ACC 401, DSC 375, ECO 410, ECO 441, MKT 436, OPS 350, and PSY 445.

## Operations and Supply Management

The operations and supply management program offered by the Department of Management Information Systems, Operations

Management, and Decision Sciences includes a major and a minor in operations and supply management (OPS).
Students who major or minor in operations and supply management learn how to manage the core operations of an organization. These core operations use the human, technical, and financial resources of the organization to create goods and services for customers. Operations managers apply technical and quantitative tools and techniques, together with behavioral skills, to manage the transformation of inputs into outputs desired by customers. Operations managers participate in these transformation processes in many different roles, including:

- Process improvement analyst
- Quality assurance analyst
- Purchasing agent
- Production/inventory manager
- Warehouse manager
- Service facility manager
- Operations consultant

The OPS program is selective. UD students wishing to declare an OPS major must have an overall GPA of 2.8 or higher. Moreover, to declare and/or remain in the program students must earn a grade of B - or higher in the introductory course, OPS 301. Exceptions to these requirements must be approved by the MIS/OM/DSC Department Chair.
In addition to other requirements, the major in Operations and Supply Management requires OPS 350, Business Process Management, DSC 375, Management Science, OPS 401, Operations Planning and Control, OPS 480, Supply Chain Management Strategies, OPS 485, Capstone OPS Project I, OPS 495, Capstone OPS Project II, and six semester hours of OPS electives.

A minor in operations and supply management is available to students who want to acquire basic skills in this area and understand that doing so will enhance their ability to manage operations in any functional area of a business. A minor in operations and supply management consists of twelve hours for students in the School of Business Administration and 21 hours for non-business students.

## Faculty

E. James Dunne, Chairperson

Professor Emeritus and Distinguished Service Professor: Bohlen Professors Emeriti: Amsden, Casey, Hoffer, Vlahos Sherman-Standard Register Professor of MIS: Ferratt Niehaus Chair in Operations Management: Kanet Professors: Dunne, Ferratt, Gorman, Kanet, Wells Associate Professors: Enns, Prasad, Salisbury Assistant Professors: Harrod, Jacobs, Wynn Lecturers: Davis, Hall, Wagner

## Bachelor of Science in business administration with a major in Operations and Supply Management (OPS)

| Liberal Arts Requirements | 48 |  |
| :--- | :--- | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |


| HST 103 | West and World | 3 |
| :---: | :---: | :---: |
| MTH 128 | Finite Math | 3 |
| MTH 129 | Calc for Business | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one business ethics course from: |  | 3 |
| PHL 313 | Business Ethics |  |
| REL 368 | Chr Ethics\&Bus World |  |
| Select one business writing requirement from: |  | 3 |
| ENG 370 | Rprt\&Proposal Wrtng |  |
| ENG 371 | Technical Commnicatn |  |
| ENG 372 | Business Commicatn |  |
| Select two natural science electives from: |  | 6 |
| BIO 101 | General Biology I |  |
| CHM 200 | Chemistry \& Society |  |
| GEO 109 | General Geology |  |
| PHY 105 | Phy Sci Energy \& Env |  |
| PHY 108 | Phy Sci-Light\&Color |  |
| Select one social science elective from: |  | 3 |
| ANT 150 | Cultural Anthropolgy |  |
| POL 101 | Global Politics |  |
| POL 201 | Amer Political Systems |  |
| PSY 101 | Introductory Psych |  |
| SOC 101 | Prin of Sociology |  |
| Art Study elective |  | 3 |
| HST elective (300/400 level) |  | 3 |
| PHL/REL elective (300/400 level) |  | 3 |
| Business Requirements |  | 45 |
| ACC 207 | Intro-Financial Acc | 3 |
| ACC 208 | Intro-Managerial Acc | 3 |
| BAI 150 | Bus Educ Planning | 1 |
| BAI 103L | Bus Computing Lab | 1 |
| BAI 151 | Bus Integratn Exp | 1 |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ECO 204 | Prin of Macroecon | 3 |
| FIN 301 | Intro to Financial Mgt | 3 |
| MGT 201 | Legal Envirnmt-Bus | 3 |
| MGT 301 | Organiztnl Behavior | 3 |
| MGT 490 | Managing the Entrpse | 3 |
| MIS 301 | Info Sys in Org | 3 |
| MKT 301 | Prin of Marketing | 3 |
| OPS 301 | Survy-Oper\&Supply Mgt | 3 |
| ECO elective ( $300 / 400$ level) |  | 3 |
| Major Requirements |  | 24 |
| OPS 350 | Bus Process Mgt | 3 |
| DSC 375 | Management Science | 3 |
| OPS 401 | Oper Plan \& Contrl | 3 |
| OPS 480 | Supply Chain Mgt Strt | 3 |
| OPS 485 | Capstne Oprtn Pjct I | 1 |


| OPS 495 | Capstone OPS Prjct | 5 |
| :--- | :--- | :--- |
| OPS electives |  | 6 |

## Minor in Operations and Supply Management (OPS)

A minor in Operations \& Supply Management consists of 12 hours for students in the School of Business Administration and 21 for nonbusiness students.

## Operations and Supply Management

| DSC 210 | Stats For Bus I | 3 |
| :--- | :--- | :--- |
| DSC 211 | Stats For Bus II | 3 |
| DSC 375 | Management Science | 3 |
| OPS 300 | Intro-Oper\&Supply Mgt | 3 |
| or OPS 301 | Survy-Oper\&Supply Mgt |  |
| OPS 350 | Bus Process Mgt | 3 |
| OPS 401 | Oper Plan \& Contrl | 3 |
| or OPS 480 | Supply Chain Mgt Strt |  |
| Select three semester hours from DSC, OPS, MIS, or IET ${ }^{1}$ | 3 |  |
| Total Hours |  | 21 |

1 Approved by the department chairperson.

## Decision Sciences

The Department of Management Information Systems, Operations Management, and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems (see MIS), a major and minor in operations and supply management (see OPS), and minors in business analytics, business intelligence and cyber-security.
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 and operations management courses as part of their core business coursework:
DSC 210 Stats For Bus I 3
DSC 211 Stats For Bus II 3

OPS 301 Survy-Oper\&Supply Mgt 3
The minor in business analytics (BAN) offers business majors and other students an opportunity to develop their skills in the quantitative methods which support managerial decision making. A minor in business analytics consists of 21 semester hours for non-business majors and 12 hours for business majors.
Specific courses in other areas (e.g. mathematics) may be used. See chairperson for approval.

## Faculty

E. James Dunne, Chairperson

Professor Emeritus and Distinguished Service Professor: Bohlen
Professors Emeriti: Amsden, Casey, Hoffer, Vlahos
Sherman-Standard Register Professor of MIS: Ferratt
Niehaus Chair in Operations Management: Kanet
Professors: Dunne, Ferratt, Kanet, Wells
Associate Professors: Enns, Gorman, Prasad, Salisbury
Assistant Professors: Harrod, Jacobs, Wynn
Lecturers: Davis, Hall, Wagner

## Minor in Business Analytics (BAN)

A minor in Business Analytics (BAN) consists of 12 hours for students in the School of Business Administration and 21 for non-business students.

| Business Analytics (business majors) |  |  |
| :--- | :--- | :--- |
| DSC 375 | Management Science | 3 |
| OPS 350 | Bus Process Mgt | 3 |
| Select six semester hours from DSC, MIS, or OPS (300/400 level) | 6 |  |
| 1,2 |  |  |
| Total Hours | $\mathbf{1 2}$ |  |

1 In addition to courses used to satisfy the requirements of any other major or minor. Approval of the department chairperson.
2 OPS majors must select nine additional semester hours instead of six.

| Business Analytics (non-business majors) |  |  |
| :--- | :--- | ---: |
| DSC 210 | Stats For Bus I | 3 |
| DSC 211 | Stats For Bus II | 3 |
| DSC 375 | Management Science | 3 |
| MIS 300 | Survey of Mgt Info Sys | 3 |
| or MIS 301 | Info Sys in Org |  |
| OPS 300 | Intro-Oper\&Supply Mgt | 3 |
| or OPS 301 | Survy-Oper\&Supply Mgt |  |
| OPS 350 | Bus Process Mgt | 3 |
| Select three semester hours from DSC, OPS or MIS (300/400 level) | 3 |  |
| Total Hours | 21 |  |

## Decision Sciences Courses

## DSC 210. Stats For Bus I. 3 Hours

STATISTICS FOR BUSINESS I - Basic concepts of statistics including descriptive statistics, probability, probability distributions, and estimation. Prerequisite(s): MTH 128, MTH 129; BAI 103L (may be taken as a corequisite).

## DSC 211. Stats For Bus II. 3 Hours

STATISTICS FOR BUSINESS II - Tests of hypotheses, analysis of variance, Chi-square tests, simple and multiple regression and correlation. Use of computer software for statistical data analysis.
Prerequisite(s): BAI 103L; DSC 210; MTH 129.

## DSC 313. Adv Business Stats. 3 Hours

ADVANCED BUSINESS STATISTICS - Selected topics from advanced statistics with emphasis on business applications. Prerequisite(s): DSC 211 or equivalent.

## DSC 375. Management Science. 3 Hours

MANAGEMENT SCIENCE - Quantitative modeling applications for managerial analysis and decision making. Develops skills to analyze and solve problems using computer-based mathematical modeling in a wide variety of business decision situations involving business functional areas such as accounting, economics, finance, human resources, marketing, management information systems, and operations management. Topics include constrained modeling techniques, simulation, and multi-criteria decision making. Prerequisite(s): DSC 211; OPS 301 (may be taken as a corequisite).

## DSC 410. Decision Theory. 3 Hours

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(s): DSC 211 or equivalent.

## DSC 415. Simulatn Moding\&Anly. 3 Hours

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.
Prerequisite(s): DSC 211; DSC 375 recommended.

## DSC 435. Analysis-Factry Sys. 3 Hours

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 Prerequisite(s): DSC 375, OPS 301.

## DSC 491. Honors Thesis. 3 Hours

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.

## DSC 492. Honors Thesis. 3 Hours

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.

## DSC 494. Seminar In Dsc. 3 Hours

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.

## DSC 497. Lab Work Experience. 1-6 Hours

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. Prerequisite(s): Permission of department chairperson.

## DSC 498. Coop Education Prog. 3 Hours

COOPERATIVE EDUCATION - Optional full-time work period off campus alternating with study period on campus. Prerequisite(s): Permission of department chairperson.

## DSC 499. Indep Study In Dsc. 1-6 Hours

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. Permission of chairperson required. Prerequisite(s): Permission of department chairperson.

## Management Info Systems Courses

MIS 220. Exp Careers/Info Sys. 1 Hour
EXPLORING CAREERS IN INFORMATION SYSTEMS - Designed to immerse students into the contemporary issues of management information systems. Site visits and guest lectures from management information systems leaders. Priority given to first and second year students. Satisfactory/No Credit. Prerequisite(s): Permission of department chairperson.

## MIS 300. Survey of Mgt Info Sys. 3 Hours

SURVEY OF MANAGEMENT INFORMATION SYSTEMS - Introduction to management information systems 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 MIS 301. Permission of department chairperson required. Prerequisite(s): (BAI 103L or HSS 226); junior standing.

## MIS 301. Info Sys in Org. 3 Hours

INFORMATION SYSTEMS IN ORGANIZATIONS - Survey of 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. Sophomores are encouraged to take this course during their second term. Prerequisite(s): ACC 207;(ACC 208 or ACC 301, (may be taken as a corequisite)); (BAI 103L or HSS 226); ECO 203.

MIS 305. Prb Slvg wth Vis Tls. 1 Hour INTRODUCTION TO BUSINESS APPLICATIONS: PROBLEM SOLVING WITH VISUAL TOOLS - Introduction to basic programming structures, graphical user interface design, and other tools using a visual programming language such as Visual Basic.net. Prerequisite(s): BAI 103L or equivalent.

## MIS 325. Programming-Bus Sys. 4 Hours

PROGRAMMING FOR BUSINESS SYSTEMS - Process of software development for business system implementation. Fundamental objectoriented programming concepts include program design, documentation, development, and testing of computer solutions for business problems using a modern programming language, such as Java. Prerequisite(s): MIS 305.

## MIS 360. E-Commerce ProcTech. 3 Hours

## MIS 366. Business Intelligence. 3 Hours

BUSINESS INTELLIGENCE - The use of computer-based data analysis tools to support managers in problem solving and decision making. Prerequisite(s): DSC 211; MIS 301. Corequisite(s): MIS 385.

## MIS 368. Prin of Infmtn Sec Mgt. 3 Hours

PRINCIPLES OF INFORMATION SECURITY MANAGEMENT Addresses issues relevant to creating a systematic information assurance, compliance control structure and systematic security procedures. Information security policy, assets, physical and logical information resource security, business continuity, and compliance with relevant security standards are covered. Prerequisite(s): MIS 301.

MIS 380. Sys Anly \& Re-engr. 3 Hours
SYSTEMS ANALYSIS AND RE-ENGINEERING - Concepts, methods, techniques, and tools needed to initiate a systems development project and to conduct the requirements collection, analysis, and structuring activities of systems development. Structured life cycle and alternatives. Re-engineering business processes through information systems. Prerequisite(s): MIS 300 or MIS 301; MIS 385 (may be taken as a corequisite); Business majors only or permission of department chairperson. Corequisite(s): MIS 381.

## MIS 381. Prin of Project Mgt. 1 Hour

PRINCIPLES OF PROJECT MANAGEMENT - Introduction to project management concepts and ideas. Possible use of an existing team project from another course to learn principles of scheduling, team management, client management, etc., emphasizing best project management practices. Prerequisite(s): MIS 300 or MIS 301.

MIS 385. Sys Implmntn-DBMS. 3 Hours
SYSTEMS IMPLEMENTATION WITH DATABASE MANAGEMENT SYSTEMS - Concepts, techniques, and tools to convert a logical system design into a working application using a relational DBMS. File and data structures, logical and physical database design, security and data integrity, file design and processing. DBMS functions, SQL, 3GL and 4GL access to databases, linkage to WWW pages, database architectures, CASE. Prerequisite(s): MIS 300 or MIS 301; MIS 305 (may be taken as a corequisite).

## MIS 410. Oriented Anal \& Des. 3 Hours

## MIS 420. Exp\&Knowl-Based Sys. 3 Hours

MIS 425. Inform for Totl Qual. 3 Hours

## MIS 430. Telecommntns\&Netwrkg. 3 Hours

TELECOMMUNICATIONS AND NETWORKING-CLASSIFIED -
Introduction to computer-based communication networks, underlying concepts; basic hardware components and operating systems; network architectures and protocols; data integrity and security; message routing; network management. Offered on the ATIC Campus. Prerequisite(s): MIS 368 or permission of instructor; U.S. Department of Defense Interim Secret Clearance or higher.

## MIS 460. Adv Web Development. 3 Hours

ADVANCED WEB DEVELOPMENT - Study of web development concepts and techniques. Design and development of dynamic web-sites using technologies such as ASP.NET. Prerequisite(s): MIS 300 or MIS 301; MIS 305 or equivalent.

## MIS 461. E-Business. 3 Hours

## MIS 465. Pjr I-AnI\&Dsn-Teams. 3 Hours

MIS PROJECT I-ANALYSIS AND DESIGN IN TEAMS - First of a two-course sequence. Team participation/management and project management skills. Apply these skills in teams to perform an analysis and preliminary re-design of an existing organization's information system. Emphasis on written and oral communications, including team-prepared reports and presentations. Offered fall semester only. Prerequisite(s): MIS 325, MIS 380, MIS 381, MIS 385.

## MIS 467. Data Warehousing. 3 Hours

DATA WAREHOUSING - Purpose, design, implementation, and effective use of data warehouses and data warehousing technologies. Topics include data warehouse design, data marts, data quality management, extract-transform-load process, and business intelligence. Prerequisite(s): MIS 301, MIS 385.

## MIS 468. Internet Security. 3 Hours

INTERNET SECURITY-CLASSIFIED - This course provides students with an understanding of both defensive and offensive issues of information security. The course includes instruction on information security theory, psychological operations, hacking, viruses, and systems management. The course emphasizes security for e-commerce on the Internet. Offered on the ATIC Campus. Prerequisite(s): MIS 430; U.S. Department of Defense Interim Secret Clearance or higher.

## MIS 475. Prj II-Dsn\&Implm-Tms. 3 Hours

MIS PROJECT II-DESIGN AND IMPLEMENTATION IN TEAMS -
Continuation of MIS 465. With its organizational client, each team carries its project as far as possible towards final design and actual implementation. Emphasis on written and oral communications, including team-prepared reports and presentations. Offered winter semester only. Prerequisite(s): MIS 465.

## MIS 491. Honors Thesis. 3 Hours

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.

## MIS 492. Honors Thesis. 3 Hours

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.

## MIS 494. Seminar in MIS. 1-4 Hours

## MIS 497. Lab Work Experience. 1-6 Hours

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.) Prerequisite(s): Permission of department chairperson.

## MIS 498. Coop Education Prog. 1-6 Hours

COOPERATIVE EDUCATION - Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Prerequisite(s): Permission of department chairperson.

## MIS 499. Indep Study in MIS. 1-6 Hours <br> INDEPENDENT STUDY IN MANAGEMENT INFORMATION SYSTEMS

- 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. Prerequisite(s): Permission of department chairperson.


## Operations Management Courses

## OPS 220. Exper-Oper\& Supply. 1 Hour

EXPERIENCES IN OPERATIONS AND SUPPLY MANAGEMENT -
Designed to immerse students into the contemporary issues of operations and supply management. Site visits and guest lectures from operations management leaders. Priority given to first and second year students. Satisfactory/No Credit. Prerequisite(s): Permission of department chairperson.

## OPS 300. Intro-Oper\&Supply Mgt. 3 Hours INTRODUCTION TO OPERATIONS AND SUPPLY MANAGEMENT

 - Concepts and OPS software-based techniques of designing, implementing, managing, and improving operations in manufacturing and service organizations, including project management, services systems design, resource allocation modeling, facility location, layout, aggregate planning, scheduling, and material requirements planning. Survey of major OPS strategies such as: just-in-time production, total quality management, business process reengineering, synchronous manufacturing, enterprise resource planning, and supply chain management. Not open to students in the School of Business Administration or to those with credit in OPS 301. Student must show aptitude in quantitative materials. Prerequisite(s): (BAI 103L or equivalent); (MTH 128, MTH 129 or equivalent); junior standing; permission of department chairperson; DSC 211 or equivalent recommended.
## OPS 301. Survy-Oper\&Supply Mgt. 3 Hours

 SURVEY OF OPERATIONS AND SUPPLY MANAGEMENT - Concepts and OPS software-based techniques of designing, implementing, managing, and improving operations in manufacturing and service organizations, including project management, service systems design, resource allocation modeling, facility location, layout, aggregate planning, scheduling, and material requirements planning. Survey of major OPS strategies such as: just-in-time production, total quality management, business process reengineering, synchronous manufacturing, enterprise resource planning, and supply chain management. Prerequisite(s): DSC 211 (may be taken as a corequisite).
## OPS 350. Bus Process Mgt. 3 Hours

BUSINESS PROCESS MANAGEMENT - Analytical and empirical tools for evaluation of operations in manufacturing/service firms. Analytical methods may include flow diagrams, Little's Law, queuing theory, theoretical flow times, critical paty networks, resource capacity, and estimates of system flow. Empirical methods include quality sampling and discrete event simulation. Students receive training in Rockwell Arena simulation software. Projects or case studies require creative problem solving for realist business problems. Prerequisite(s): DSC 211; OPS 301 (may be taken as a corequisite); Business majors only or permission of department chairperson.

## OPS 401. Oper Plan \& Contrl. 3 Hours

OPERATIONS PLANNING AND CONTROL - Concepts and techniques in the planning and control of operations. Advanced treatment topics include: forecasting for operations, operations sequencing and scheduling, inventory and production control, production planning system design, MRP/ERP, warehouse management, purchasing and physical distribution, balanced attention to technical as well as the managerial aspects of operations planning and control. Prerequisite(s): DSC 211; DSC 375 (may be taken as a corequisite); OPS 301.

## OPS 413. Project Management. 3 Hours

PROJECT MANAGEMENT - Broad coverage of technical and human management issues in projects. Emphasis on project planning, scheduling, tracking, and close-down. Task time and cost estimation and description. Use of computer software. Team building and other aspects of managing project teams. Prerequisite(s): OPS 301.

## OPS 430. Qual\&jit in Manfctng. 3 Hours

QUALITY AND JUST IN TIME MANUFACTURING - The concepts of just-in-time manufacturing, total quality system, and statistical process control. Projects, tours, and guest speakers. Prerequisite(s): OPS 301.

## OPS 440. Continuous Imprvmnt. 3 Hours

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(s): OPS 301.

## OPS 480. Supply Chain Mgt Strt. 3 Hours

SUPPLY CHAIN MANAGEMENT STRATEGIES - Concepts, analytical techniques, and solution methods for designing and managing integrated supply chains. Strategic issues of integrated supply chain design and management, including inventory management, logistics network design, distribution systems, strategic alliances, value of information for centralized decisions and risk-pooling, information technology and decision support, and international supply chain management. Prerequisite(s): DSC 211; DSC 375 (may be taken as a corequisite); OPS 301; OPS 350 (may be taken as a corequisite).

## OPS 485. Capstne Oprtn Pjct I. 1 Hour

CAPSTONE OPS PROJECT I - This course centers on the preparation for an experiential operations improvement project. Students evaluate real-world project proposals from clients, develop clear understanding of operations improvement opportunities, and select projects at hand. Student teams learn about process improvement project design and develop well-defined project plans for execution in OPS 495. Students taking OPS 485 in the fall must take OPS 495 in the subsequent winter semester. Prerequisite(s): Permission of instructor.

## OPS 491. Honors Thesis. 3 Hours

HONORS THESIS - Selection, design, investigation, and completion of an independent and 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.

## OPS 492. Honors Thesis. 3 Hours

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.

## OPS 494. Sem-Oper\&Supply Mgt. 3 Hours

SEMINAR IN OPERATIONS AND SUPPLY MANAGEMENT - Study of selected topics or issues in 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.

## OPS 495. Capstone OPS Prjct. 5 Hours

CAPSTONE OPS PROJECT II - This course centers on the execution of an experiential project applying operations management concepts and techniques to practical problems with faculty supervision. Student teams address significant operational problems and opportunities in realworld service and manufacturing firms. Teams write recommendation/ implementation reports and make presentations of their work. Prerequisite(s): OPS 401, OPS 480, OPS 485.

## OPS 497. Lab Work Experience. 1-6 Hours

LABORATORY WORK EXPERIENCE - Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, government, or other organization, practical experience in work associated with the student's major. (See internship coordinator for details.) May satisfy OPS elective, with chairperson approval.

## OPS 498. Coop Education Prog. 1-6 Hours

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.

## OPS 499. IS-Oper\&Supply Mgt. 1-6 Hours

 INDEPENDENT STUDY IN OPERATIONS AND SUPPLY MANAGEMENT - Research in conjunction with a faculty member on a subject within the general area of operations management. Normally open only to juniors and seniors who have attained a cumulative gradepoint average of 3.0 or above. Permission of chairperson required.
## School of Education and Allied Professions

Kevin R. Kelly, Dean<br>Kathryn Kinnucan-Welsch, Associate Dean for Undergraduate Learning and Community Partnerships<br>In conformity with the University's mission, the School of Education and Allied Professions (SOEAP) endeavors to educate distinctive graduates who will effectively and efficiently utilize the highest quality of learning and scholarship and engage people in building strong learning communities and in developing collaborative, dynamic partnerships. The SOEAP programs focus on distinctive Catholic and Marianist educational and intellectual traditions which enable graduates to become effective practitioners in the field of professional education and the allied professions. The theme for the SOEAP is "Building Learning Communities Through Critical Reflection".

As a community of learners, collaboration and critical reflection is fostered and encouraged through efforts to integrate and connect knowledge, skills and dispositions gained from various courses in the SOEAP and the liberal arts, including the general education curriculum. This acquaints the students with the major areas of knowledge and provides the basis for their specific program of study. The SOEAP is particularly noted for the professional development of teachers and allied professionals who are able to enhance the quality of life experiences for both children and adults. In relation to teaching, the school is committed to quality programs which address the professional preparation of teachers for the early, middle, and secondary schools and intervention specialists. In relation to the allied professions, the school is committed to quality programs which address the professional preparation for specialists in exercise science and fitness management, sport management, pre-physical therapy, and food and nutrition. Provisions for professional competence are made through:

1. Comprehensive study of the various fields
2. Study of the professional foundations common to all of the program areas
3. Specialized study of the principles underlying a particular area of study
4. Appropriate field-based experiences

Students in the SOEAP should appraise their commitment to teaching and the allied professions according to their development in specific knowledge, skills, and dispositions. Students will have opportunities to apply theory to practice in planned and supervised field-based experiences. Their programs of study will include reflective practice which will incorporate inquiry leading to self improvement.

The SOEAP is committed:

- to education for the improvement of others and society
- to the principles that refer to a shared common humanity
- to the dignity of the person and the use of reason and cooperation in seeking social justice
- to the democratic principles
- to a humanistic approach to learning; and
- to the Marianist traditions in education


## Academic Programs

The SOEAP offers the following majors leading to the Bachelor of Science degree. Additional information specific to each department may be found under the Programs of Study tab.

## Department of Health and Sport Science

BSE.EHA: Dietetics (p. 294)
BSE.EEP: Exercise Physiology (p. 295)
BSE.EES: Exercise Science (p. 295)
BSE.EHN: Nutrition and Fitness (p. 296)
BSE.EPT: Pre-Physical Therapy (p. 296)
BSE.ESM: Sport Management (p. 297)

## Department of Teacher Education

BSE.EYA: Adolescence to Young Adult Education (p. 301)
BSE.ECE: Early Childhood Education (p. 302)
BSE.ECL: Early Childhood Leadership and Advocacy (p. 303)
BSE.ELA: Foreign Language Education (Multi-Age PK-12) (p. 303)
BSE.EIS: Intervention Specialist (Special Education) (p. 304)
BSE.EMS: Middle Childhood Education (p. 304)
BSE.ERL: Secondary Catholic Religious Education (p. 305)
BSE.EAR: Visual Arts Education (Multi-Age PK-12) (p. 306)
Students who major in the College of Arts and Sciences can also earn a teaching license (p. 113).

## Degree Requirements

To be awarded the bachelor's degree by the School of Education and Allied Professions, it is necessary to complete all requirements as stipulated by the catalog and department policy. The final 30 semester hours must be earned at the University of Dayton.
Following this general introductory section, this chapter includes specific four-year course requirements for the various programs in Teacher Education. The programs for licensure in early childhood, middle childhood, adolescent to young adult, intervention specialist, and multi-age (art, foreign language) teaching are all included. All of these programs lead to the Bachelor of Science (B.S.) degree.

The Department of Teacher Education has an extensive benchmarks (requirements for starting and /or continuing a program) process for students in all four years of the program. Before registering for the second year of courses, all students in teacher licensure programs should have taken and passed all three sections of the Praxis I exams. At the end of their first year, all students are required to apply for formal admission to the particular licensure program which they choose to study. The student's application is reviewed by a departmental committee to determine the extent to which their academic work and other benchmark accomplishments indicate the likelihood of their success as professional teachers. Admission requires a GPA of 2.5 overall, in professional education courses and in the various teaching field(s), the passing of Praxis I, along with other Benchmark expectations.

The responsibility for meeting the University and state requirements rests with the student. The student is advised 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 intend to teach.

The requirements for graduation and teacher licensure are included below.

1. The student would demonstrate abilities in content and pedagogical knowledge, dispositions and skills that would be indicative of professional success. All students enrolled in programs leading to State of Ohio licensure must verify that they are of "good moral character," fingerprinted, and pass a background check. Pursuant to SOEAP policy, these students must complete the appropriate forms provided by the Office of the Dean. (Consult the SOEAP dean's office for further information.)
2. The student would successfully complete a variety of planned and supervised clinical experiences essential to the professional development of beginning teachers.
3. The student would successfully complete a minimum of 124 semester hours in approved courses; some programs may require more than 124 semester hours.
4. The student would demonstrate a cumulative grade point average of at least 2.5 , overall, in the professional education courses and in each teaching field in which licensure is sought. The professional education courses, the content courses in the teaching fields, and the General Education courses must be taken under grading Option 1.
5. The student would successfully complete the following general professional education sequence of courses:
A. Personal and Professional Development of the Teacher
B. Child and/or Adolescent Development
C. Teaching and Learning Theories
D. Inclusive Education
E. Special Methods ${ }^{1}$
F. Philosophy and History of Education
G. Student Teaching

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 are never accepted for student teaching.
6. The student would complete the University requirements in General Education and pass the Basic Skills competencies in reading and writing, oral communication, quantitative reasoning, and information literacy. Students should see Section V, Academic Regulations and consult with their advisors for more information.
7. The student must have a passing score on all three sections of the Praxis I (math, reading, and writing), which must be taken by the end of the first term of the first year of study.
8. The student must have a passing score on several Praxis II tests, which are required by Ohio's State Department of Education for eligibility for the provisional license to teach. Students should consult the dean's office for the specific tests appropriate for their programs, and the dates on which the examinations will be administered.

1 Each program has particular methods courses along with other specialized education courses; see specific programs.

## Licensure for Students in Arts and Sciences

## B.A. or B.S. with Teacher Licensure

Students in the College of Arts and Sciences may be able to complete the requirements for a teaching license without transferring to the School of Education and Allied Professions. For additional information regarding this option consult the Dean's office in the College of Arts and Sciences.
Enrollment, continuation, and successful completion in this program are subject to the same admission requirements, advising, maintenance of a unified system of records, screening, and other professional expectations of students in the School of Education and Allied Professions working toward the B.S. in Education and Allied Professions.

In order to complete all requirements in four years, a student in the College of Arts and Sciences should process an application for admission to the appropriate licensure program during the second semester of enrollment to begin the professional education sequence. Screening will be completed by the SOEAP transfer official. The requirements for the College of Arts and Sciences, the School of Education and Allied Professions, and licensure program concentration courses must be completed in order to be eligible for licensure recommendation. It is possible for students to earn dual degrees in the College of Arts and Sciences and School of Education and Allied Professions.

## Transfer Students

The School of Education and Allied Professions welcomes transfer students into our programs. Students should contact either the SOEAP Student Services and Licensure Office or the Departments of Health and Sport Science and Teacher Education for additional information.

## Programs of Study

To learn more about the available programs in the School of Education and Allied Professions, explore the departments in the menu on the right.

## Health and Sport Science

## Majors:

- Bachelor of Science, Dietetics
- Bachelor of Science, Exercise Physiology
- Bachelor of Science, Exercise Science
- Bachelor of Science, Nutrition and Fitness
- Bachelor of Science, Pre-Physical Therapy
- Bachelor of Science, Sport Management

The undergraduate mission of the Department of Health and Sport Science is to prepare students to be proficient and professional in the disciplines of dietetics and nutrition, exercise physiology, exercise science, pre-physical therapy, and sport management.

The Dietetics and Nutrition Programs prepare students for postbaccalaureate dietetic internships or pre-professional practice programs.
Exercise Physiology students prepare to pursue research careers in exercise science, medicine, or health.

The Exercise Science Program is designed to prepare students for professional opportunities in corporate fitness, wellness and health maintenance programs in a variety of settings.
The Pre-Physical Therapy Program will prepare students for graduate school in physical therapy and other allied health professions.

The Sport Management Program prepares students for professional opportunities in:

- Division I and professional sports
- Sports organizations/federations
- Newspapers
- Television
- Sporting goods
- And the many areas of recreation

Along with minimum ACT/SAT scores, minimum cumulative GPAs are required for students wishing to transfer into the department.

## Faculty

Lloyd L. Laubach, Chairperson
Professors Emeriti: Drees, Leonard, Roberts, Schleppi, Siciliano Associate Professors: Daprano, DeMarco, Laubach, Linderman, Titlebaum
Lecturers: Dalton, Gallo, Ritterhoff

## Bachelor of Science with a major in Dietetics (EHA)

This program, which leads to a Bachelor of Science degree, prepares students who wish to become registered dietitians. It has a strong science component.

During the last semester of their senior year, students make application to a dietetic internship program. These post-baccalaureate programs are usually eight to eleven months in length and will qualify the student to sit for examination to become registered dieticians. Acceptance into the internship program is highly competitive and is based on the student's grades, work experience, recommendation letters, and extra curricular activities. Selection is made through computer matching.
Costs of the didactic program in dietetics may also include laboratory fees, the purchase of a lab coat, and membership fees for the Student Dietetic Association and the Academy of Nutrition and Dietetics. No liability insurance is needed since the students in this program do not participate in a practice setting.

The didactic program in dietetics is currently granted initial accreditation by the Commission on Accreditation for Dietetics Education (CADE), Suite 2000, 120 South Riverside Plaza, Chicago, Illinois 60606, Phone: (900) 877-1600.

| ACC 200 | Intro to Accounting | 3 |
| :--- | :--- | :--- |
| ANT 150 | Cultural Anthropolgy | 3 |
| BIO 151 | Concepts of Bio I | 3 |
| BIO 152 | Concepts of Bio II | 3 |
| BIO 411 | General Microbiology | 3 |
| CHM 123 | General Chemistry | 4 |
| \& 123L | and Gen Chemistry Lab |  |
| CHM 124 | General Chemistry | 4 |
| \& 124L | and Gen Chemistry Lab |  |
| CHM 313 | Organic Chemistry | 3 |
| CMM 110 | Group Dec-Making | 1 |


| CMM 111 <br> or CMM 112 | Inform Public Sp <br> Persuasive Public Sp | 1 |
| :---: | :---: | :---: |
| CMM 113 | Interviewing | 1 |
| CPS 111 | Intro-Personal Comp | 3 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| ENG 370 | Rprt\&Proposal Wrtng | 3 |
| or ENG 371 | Technical Commnicatn |  |
| or ENG 372 | Business Commicatn |  |
| or ENG 373 | Medical Writing |  |
| HSS 101 | Intro-Univ Exper | 1 |
| HSS 113 | Intro-Dietcs/Nutrn | 2 |
| $\begin{aligned} & \text { HSS } 210 \\ & \& 210 \text { L } \end{aligned}$ | Introductory Foods and Intro Foods Lab | 4 |
| HSS 295 | Nutrition \& Health | 3 |
| HSS 302 | Global\&Cultrl Nutr | 3 |
| HSS 303 | Food Service | 2 |
| HSS 304 | Instl Qnt Food Buyng | 2-3 |
| HSS 305 | Human Anatomy | 3 |
| HSS 305L | Human Anatomy Lab | 1 |
| HSS 307 | Human Physiology | 3 |
| HSS 345 | Med Eval \& Terminlgy | 3 |
| HSS 401 | Nutritnal Biochem I | 3 |
| HSS 402 | Nutritn-Aging Adult | 2 |
| HSS 406 | Nutrtn for Mthr/Child | 2 |
| HSS 408 <br> \& 408L | Physiology-Exercise and Physiology Ex Lab | 4 |
| HSS 428 | Rsch in Phys Act\&Hlth | 3 |
| HSS 439 | Prof Sem in Dietetics | 2 |
| HSS 456 | Nutrnl Biochemstryll | 3 |
| HSS 495 | Med Nutrition Thrpy | 4 |
| HST 103 | West and World | 3 |
| HST 340 | History of Science | 3 |
| or HST 341 | Hstrcl Pers-Sci,Tech |  |
| or HST 344 | Hst-Sci,Tch\&Mod Crp |  |
| MGT 301 | Organiztnl Behavior | 3 |
| or HSS 356 | HR Managemnt in Sprt |  |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHL 312 | Ethics | 3 |
| or PHL 313 | Business Ethics |  |
| or PHL 315 | Medical Ethics |  |
| PSY 101 | Introductory Psych | 3 |
| PSY 431 | Intervwng \& CounsIng | 3 |
| REL 103 | Intro to Religion | 3 |
| REL 360 | Christian Ethics | 3 |
| or REL 367 | Chr Ethics\&HIth Care |  |
| or REL 368 | Chr Ethics\&Bus World |  |
| Arts Study elective |  | 3 |
| Total Hours |  | 124-1 |

## Bachelor of Science with a major in Exercise Physiology (EEP)

With its increased emphasis on the sciences, this is more appropriate for students interested in pursuing research careers in exercise science, medicine, or health (M.S., Ph.D. degrees).

| BIO 151 <br> \& 151L | Concepts of Bio I and Concepts-Bio Lab I | 4 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { BIO } 152 \\ & \& 152 \mathrm{~L} \end{aligned}$ | Concepts of Bio II and Concepts-Bio Lab II | 4 |
| BIO 312 | General Genetics | 3 |
| $\begin{aligned} & \text { BIO } 403 \\ & \& 403 \mathrm{~L} \end{aligned}$ | Physiology I and Physiology Lab | 4 |
| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 124 \\ & \& \quad 1241 \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chem Lab | 4 |
| CHM 420 | Biochemistry | 3 |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HSS 101 | Intro-Univ Exper | 1 |
| HSS 112 | Intro-Exer Sci\&Ftnss | 2 |
| HSS 226 | Computer Apps in HSS | 3 |
| HSS 275 | Hist-PE \& Sport | 3 |
| HSS 295 | Nutrition \& Health | 3 |
| HSS 305 <br> \& 305L | Human Anatomy and Human Anatomy Lab | 4 |
| HSS 307 | Human Physiology | 3 |
| HSS 335 | Intro-Athletic Trng | 3 |
| HSS 345 | Med Eval \& Terminlgy | 3 |
| HSS 405 | Tsts\&Measrmnts-Sp Sc | 3 |
| HSS 408 <br> \& 408L | Physiology-Exercise and Physiology Ex Lab | 4 |
| $\begin{aligned} & \text { HSS } 409 \\ & \& 409 \mathrm{~L} \end{aligned}$ | Kinesiology and Kinesiology Lab | 4 |
| HSS 422 | Exer-Spec Populatns | 3 |
| HSS 428 | Rsch in Phys Act\&Hlth | 3 |
| HSS 455 | Sel Studies-Exer Sci | 1-3 |
| HST 103 | West and World | 3 |
| MTH 148 | Introductory Calc I | 3 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHL 312 | Ethics | 3 |
| or PHL 313 | Business Ethics |  |
| or PHL 315 | Medical Ethics |  |


| PHY 201 <br> \& 201L | General Physics and General Physics Lab | 4 |
| :---: | :---: | :---: |
| PHY 202 <br> \& 202L | General Physics and General Physics Lab | 4 |
| PSY 101 | Introductory Psych | 3 |
| PSY 251 | Hum Growth \& Develop | 3 |
| PSY 366 | Health Psychology | 3 |
| REL 103 | Intro to Religion | 3 |
| REL 360 | Christian Ethics | 3 |
| or REL 367 | Chr Ethics\&Hlth Care |  |
| or REL 368 | Chr Ethics\&Bus World |  |
| Arts Study elective |  | 3 |
| Total Hours |  | 7-1 |

## Bachelor of Science with a major in Exercise Science (EES)

Wellness is no longer a health trend or fad, it has become a lifestyle. Career opportunities available to graduates include:

- Exercise program directors in business, industry, hospitals, and communities
- Cardiac rehabilitators
- Health and fitness club managers

Specific functions include testing, research, evaluating, and prescribing exercise-related activities, and promoting wellness programs.

| ACC 200 | Intro to Accounting | 3 |
| :--- | :--- | ---: |
| BIO 151 | Concepts of Bio I | 4 |
| \& 151L | and Concepts-Bio Lab I | 4 |
| BIO 152 | Concepts of Bio II |  |
| \& 152L | and Concepts-Bio Lab II |  |
| CHM 123 | General Chemistry | 4 |
| \& 123L | and Gen Chemistry Lab |  |
| CHM 124 | General Chemistry | 4 |
| \& 124L | and Gen Chemistry Lab |  |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CMM 332 | Publication Design | 3 |
| ECO 203 | Prin of Microecon | 3 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| ENG 370 | Rprt\&Proposal Wrtng | 3 |
| or ENG 372 | Business Commicatn |  |
| or ENG 378 | Prof \& Tech Writing | 1 |
| HSS 101 | Intro-Univ Exper | 2 |
| HSS 112 | Intro-Exer Sci\&Ftnss | 3 |
| HSS 117 | Persnl\&Cmmnty HIth | 2 |
| HSS 182 | Aerobic Conditioning | 3 |
| HSS 226 | Computer Apps in HSS | 3 |
| HSS 275 | Hist-PE \& Sport | 3 |
| HSS 295 | Nutrition \& Health | 3 |
| HSS 305 | Human Anatomy | 3 |
| HSS 307 | Human Physiology | 3 |


| HSS 320 | Essen/Strength Cond | 3 |
| :---: | :---: | :---: |
| HSS 335 | Intro-Athletic Trng | 3 |
| HSS 345 | Med Eval \& Terminlgy | 3 |
| HSS 401 | Nutritnal Biochem I | 3 |
| HSS 405 | Tsts\&Measrmnts-Sp Sc | 3 |
| $\begin{aligned} & \text { HSS } 408 \\ & \& 408 \mathrm{~L} \end{aligned}$ | Physiology-Exercise and Physiology Ex Lab | 4 |
| HSS 409 <br> \& 409L | Kinesiology and Kinesiology Lab | 4 |
| HSS 422 | Exer-Spec Populatns | 3 |
| HSS 428 | Rsch in Phys Act\&Hlth | 3 |
| HSS 448 | Safty\&Law- PE Sports | 3 |
| HSS 490 | Exer Sci Internship | 2 |
| HSS 491 | Exer Sci Internship | 1-3 |
| HST 103 | West and World | 3 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHL 312 | Ethics | 3 |
| or PHL 313 | Business Ethics |  |
| or PHL 315 | Medical Ethics |  |
| PSY 101 | Introductory Psych | 3 |
| PSY 251 | Hum Growth \& Develop | 3 |
| REL 103 | Intro to Religion | 3 |
| REL 360 | Christian Ethics | 3 |
| or REL 367 | Chr Ethics\&HIth Care |  |
| or REL 368 | Chr Ethics\&Bus World |  |
| Arts Study elective |  | 3 |
| Total Hours |  | 122-1 |

## Bachelor of Science with a major in Nutrition and Fitness (EHN)

This program offers classes from both the nutrition and exercise curriculum. Those who select the EHN major may take additional classes to qualify them to apply for a dietetic internship following graduation.
Students may also fulfill medical or dental schools' requirements with this program.

| ACC 200 | Intro to Accounting | 3 |
| :--- | :--- | :--- |
| ANT 150 | Cultural Anthropolgy | 3 |
| BIO 151 | Concepts of Bio I | 3 |
| BIO 152 | Concepts of Bio II | 3 |
| BIO 411 | General Microbiology | 3 |
| CHM 123 | General Chemistry | 4 |
| \& 123L | and Gen Chemistry Lab | 4 |
| CHM 124 | General Chemistry | 4 |
| \& 124L | and Gen Chemistry Lab |  |
| CHM 313 | Organic Chemistry | 3 |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CPS 111 | Intro-Personal Comp | 3 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |

ENG 370
or ENG 371
or ENG 372
or ENG 373
HSS 101 Intro-Univ Exper 1
HSS 113 Intro-Dietcs/Nutrn 2
HSS 210 Introductory Foods 4
\& 210L
HSS 295
and Intro Foods Lab

HSS 302 Global\&Cultrl Nutr 3
HSS 303 Food Service 2
HSS 304 Instl Qnt Food Buyng 2-3
HSS 305 Human Anatomy 3
HSS 307 Human Physiology 3
HSS 320 Essen/Strength Cond 3
HSS 345 Med Eval \& Terminlgy 3
HSS 401 Nutritnal Biochem I 3
HSS $402 \quad$ Nutritn-Aging Adult 2
HSS $406 \quad$ Nutrtn for Mthr/Child 2
HSS $408 \quad$ Physiology-Exercise 4
\& 408L
HSS 428 Rsch in Phys Act\&Hlth 3
HSS $439 \quad$ Prof Sem in Dietetics 2
HSS 456 Nutrnl Biochemstryll 3
HSS 490 Exer Sci Internship 2
HSS 495 Med Nutrition Thrpy 4
HST 103 West and World 3
HST 340 History of Science 3
or HST 341 Hstrcl Pers-Sci,Tech
or HST 344 Hst-Sci,Tch\&Mod Crp
MGT $301 \quad$ Organiztnl Behavior 3
MTH 207 Intro to Statistics 3
PHL 103 Intro To Philosophy 3
PHL 312 Ethics 3
or PHL 313 Business Ethics
or PHL 315 Medical Ethics
PSY 101 Introductory Psych 3
PSY 366 Health Psychology 3
$\begin{array}{ll}\text { or PSY 431 } & \text { Intervwng \& CounsIng } \\ \text { REL 103 } & \text { Intro to Religion }\end{array}$
REL 365 Chr Ethics\&Environ 3
or REL 367 Chr Ethics\&Hlth Care
or REL 368 Chr Ethics\&Bus World
Arts Study elective 3
Total Hours
128-129

## Bachelor of Science with a major in PrePhysical Therapy (ept)

The Pre-Physical Therapy program is focused on preparing students for entrance to graduate programs in physical therapy. It is designed to optimize graduates' chances of being accepted into some of the top physical therapy schools in the country. These graduate programs are highly selective, and both the undergraduate curriculum and the student's
performance are considered in this competitive screening. Employment opportunities for physical therapists are growing faster than any other segment of the healthcare industry. Because of the depth and breadth of the curriculum, a graduate will also have preparation for careers in fitness management and sports rehabilitation.

| $\begin{aligned} & \text { BIO } 151 \\ & \& 151 \mathrm{~L} \end{aligned}$ | Concepts of Bio I and Concepts-Bio Lab I | 4 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { BIO } 152 \\ & \& 152 \mathrm{~L} \end{aligned}$ | Concepts of Bio II and Concepts-Bio Lab II | 4 |
| $\begin{aligned} & \text { BIO } 309 \\ & \& ~ 309 L \end{aligned}$ | Comp Anat Vertebrts and Comp Anatomy Lab | 4 |
| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 L \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 124 \\ & \& 124 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| $\begin{aligned} & \text { CHM } 313 \\ & \& 313 \mathrm{~L} \end{aligned}$ | Organic Chemistry and Organic Chemistry Lab | 4 |
| CMM 110 | Group Dec-Making | 1 |
|  | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CPS 111 | Intro-Personal Comp | 3 |
| or HSS 226 | Computer Apps in HSS |  |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HSS 101 | Intro-Univ Exper | 1 |
| HSS 114 | Intro to Phys Thrpy | 1 |
| HSS 220 | Adaptve Phys Actvty | 3 |
| HSS 275 | Hist-PE \& Sport | 3 |
| HSS 295 | Nutrition \& Health | 3 |
| $\begin{aligned} & \text { HSS } 305 \\ & \& 305 \mathrm{~L} \end{aligned}$ | Human Anatomy and Human Anatomy Lab | 4 |
| $\begin{aligned} & \text { HSS } 307 \\ & \& 307 \mathrm{~L} \end{aligned}$ | Human Physiology and Human Physiology Lab | 4 |
| HSS 320 | Essen/Strength Cond | 3 |
| or HSS 422 | Exer-Spec Populatns |  |
| HSS 335 | Intro-Athletic Trng | 3 |
| HSS 345 | Med Eval \& Terminlgy | 3 |
| HSS 405 | Tsts\&Measrmnts-Sp Sc | 3 |
| $\begin{aligned} & \text { HSS } 408 \\ & \& 408 \mathrm{~L} \end{aligned}$ | Physiology-Exercise and Physiology Ex Lab | 4 |
| $\begin{aligned} & \text { HSS } 409 \\ & \& 409 \mathrm{~L} \end{aligned}$ | Kinesiology and Kinesiology Lab | 4 |
| HSS 428 | Rsch in Phys Act\&Hlth | 3 |
| HSS 465 | Phys Therapy Seminar | 3 |
| HST 103 | West and World | 3 |
| MTH 148 | Introductory Calc I | 3 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHL 312 | Ethics | 3 |
| or PHL 313 | Business Ethics |  |
| or PHL 315 | Medical Ethics |  |
| PHY 201 | General Physics | 4 |
| \& 201L | and General Physics Lab |  |


| PHY 202 <br> \& 202L | General Physics and General Physics Lab | 4 |
| :---: | :---: | :---: |
| PSY 101 | Introductory Psych | 3 |
| PSY 251 | Hum Growth \& Develop | 3 |
| PSY 363 | Abnormal Psychology | 3 |
| REL 103 | Intro to Religion | 3 |
| REL 360 | Christian Ethics | 3 |
| or REL 367 | Chr Ethics\&HIth Care |  |
| or REL 368 | Chr Ethics\&Bus World |  |
| Arts Study elective |  | 3 |
| Sociology elective |  | 3 |
| Total Hours |  | 125 |

## Bachelor of Science with a major in Sport Management (esm)

The Sport Management program prepares students for opportunities in sport, event, and facility management. In particular, Sport Management professionals gain positions in collegiate and professional organizations, sport clubs, and athletic federations, as well as public and private recreation. Opportunities are also available in arenas and convention centers, event management, and all forms of media.

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :--- |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp | 1 |
| CMM 113 | Interviewing | 3 |
| CPS 111 | Intro-Personal Comp | 3 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 1 |
| HSS 101 | Intro-Univ Exper | 3 |
| HSS 111 | Intro-Sport Mangmnt | 3 |
| HSS 250 | Prin of Sport Mngmnt | 3 |
| HSS 253 | Sport Facility Ops | 3 |
| HSS 255 | Sports Mgt Practicm | 3 |
| HSS 285 | Sprts Mgt Field Expr | 3 |
| HSS 325 | Women in Sport |  |
| or HSS 353 | Sports Media | 3 |
| HSS 330 | Leadership in Sport | 3 |
| HSS 349 | Financng Sprt Opertns | 3 |
| HSS 354 | Sprt-Global Communty | 3 |
| HSS 356 | HR Managemnt in Sprt | 3 |
| HSS 357 | Sports Marketing | 3 |
| HSS 358 | Sales\&Fundrsng Sport | 3 |
| HSS 448 | Safty\&Law- PE Sports | 3 |
| HSS 485 | Sport Mgt Internship | 3 |
| HST 103 | West and World | 3 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Arts Study elective | 18 |  |
| Courses in Business Minor | 3 |  |
| Courses in Professional Competency | 3 |  |
| History elective |  | 3 |
| PHL elective |  | 3 |


| Physical \& Life Science electives | 6 |
| :--- | :---: |
| REL elective | 3 |
| Social Sciences Elective | 3 |
| Total Hours | 121 |

## Courses

## HSS 101. Intro-Univ Exper. 1 Hour

INTRODUCTION TO THE UNIVERSITY EXPERIENCE - Examination of the values that foster academic progress in the College, discussion of strategies for taking full advantage of academic opportunities, and integrating formal and experiential learning.

## HSS 111. Intro-Sport Mangmnt. 3 Hours

INTRODUCTION TO SPORT MANAGEMENT - Course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a sport management career.

## HSS 112. Intro-Exer Sci\&Ftnss. 2 Hours

INTRODUCTION TO EXERCISE SCIENCE AND FITNESS
MANAGEMENT - 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.

## HSS 113. Intro-Dietcs/Nutrn. 2 Hours

INTRODUCTION TO DIETETICS AND NUTRITION - To acquaint the students interested in a career in dietetics or nutrition with the professions, roles, responsibilities, and opportunities afforded them. Examples of practice for each area will be explored. Required by all entering first-year students and open to students interested in food and nutrition careers.

## HSS 114. Intro to Phys Thrpy. 1 Hour

INTRODUCTION TO PHYSICAL THERAPY - An introductory seminar discussing the history, present and future, of physical therapy. A successful undergraduate preparation for entrance into this highly selective graduate program will be this field's secondary focus.

## HSS 117. PersnI\&Cmmnty HIth. 3 Hours

PERSONAL AND COMMUNITY HEALTH - Survey of health science and principles of preventive medicine as introduction to other courses in health and sport science.

## HSS 121. Fitness for Life. 2 Hours

FITNESS FOR LIFE - This course will include a combination of classroom lectures covring numerous topics pertaining to health related fitness as well as laboratory activity sessions implementing concepts that foster a healthy, active lifestyle.

## HSS 130. Activities. 1 Hour

PHYSICAL EDUCATION ACTIVITIES - Selected courses offered to all University students.

## HSS 182. Aerobic Conditioning. 2 Hours

AEROBIC CONDITIONING - Aerobic conditioning techniques developed primarily through running programs. Required for EES and EDP majors.

HSS 184. Conditioning. 1 Hour
CONDITIONING - Course designed for Exercise Science and PrePhysical Therapy majors to introduce them to concepts and techniques of aerobic conditioning using exercise devices such as treadmills, bicycle ergometers, stairmasters, rowing machines, etc.

## HSS 210. Introductory Foods. 2 Hours

INTRODUCTORY FOODS - Study of scientific principles applied to the processing and preparation of food to maintain nutritional quality and aesthetic value. Corequisite(s): HSS 210L.

## HSS 210L. Intro Foods Lab. 2 Hours

INTRODUCTORY FOODS LABORATORY - Course to accompany HSS 210 lecture. Corequisite(s): HSS 210.

## HSS 220. Adaptve Phys Actvty. 3 Hours

ADAPTED PHYSICAL ACTIVITY - 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.

## HSS 226. Computer Apps in HSS. 3 Hours

COMPUTER APPLICATIONS IN SPORT SCIENCE - The course focuses on understanding the practical uses of computers as a tool in exercise science and sport management activities. Emphasis is placed on demonstrated proficiency in word processing, spreadsheets, graphics, Power Point, and databases and the evaluation and use of specific exercise science and sport management packages. Emphasis will be on use of IBM compatible computers.

## HSS 250. Prin of Sport Mngmnt. 3 Hours

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. Prerequisite(s): HSS 111.

## HSS 253. Sport Facility Ops. 3 Hours

SPORT FACILITY OPERATIONS - The processes of planning,
constructing, equipping, maintaining, and operating sport facilities are
investigated in this course.

## HSS 255. Sports Mgt Practicm. 3 Hours

SPORT MANAGEMENT PRACTICIM - 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.

## HSS 275. Hist-PE \& Sport. 3 Hours

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.

## HSS 285. Sprts Mgt Field Expr. 3 Hours

SPORT MANAGEMENT FIELD EXPERIENCE - This experience is done after completion of HSS 255. 150 clock hours need to be completed for the 3 semester hour experience.

## HSS 295. Nutrition \& Health. 3 Hours

NUTRITION AND HEALTH - Study of the nutrient needs of humans and of their choices as modified by socioeconomic, cultural, and life cycle factors.

## HSS 302. Global\&Cultrl Nutr. 3 Hours

GLOBAL AND CULTURAL NUTRITION - Study of the relationship among consumers, the food; the historical evolution of food; socioeconomic influences on food.

## HSS 303. Food Service. 2 Hours

FOOD SERVICE SYSTEMS MANAGEMENT - Study of food service organizations and management. Demonstrate the importance of menu as the primary control of the food service system - factors affecting menu planning, customer satisfaction, and management decisions.

## HSS 304. Instl Qnt Food Buyng. 3 Hours

INSTITUTIONAL QUANTITY FOOD BUYING - To study quantity food production in foodservice system through application of principles for determining needs and procuring, producing and storing foods in quantity, along with institutional equipment selection, maintenance, and layout. Prerequisite(s): HSS 210, HSS 210L; a Multipurpose Computer Account (AKA Dial-in/PPP/Flyernet account); basic IBM compatible computer skills.

## HSS 305. Human Anatomy. 3 Hours

HUMAN ANATOMY - Study of the human body with emphasis on the interdependent relationships of structure and function.

## HSS 305L. Human Anatomy Lab. 1 Hour

HUMAN ANATOMY LABORATORY - Hands-on study of the human body with emphasis on the interdependent relationships of structure and function through the use of interactive anatomy.

## HSS 307. Human Physiology. 3 Hours

HUMAN PHYSIOLOGY - Survey of the functions of body systems with respect to general cell physiology and specialization into tissues, structural contributions to tissue/organ physiology, pertinent concepts of biochemical physiology, tissue metabolism and energy/food requirements during stress and exercise, recent research into control and regulation of functions of major systems, physiologic limitations outside environmental ranges, and selected examples of pathophysiology. Prerequisite(s): CHM 123, CHM 124; HSS 305. Corequisite(s): HSS 307L.

## HSS 307L. Human Physiology Lab. 1 Hour

HUMAN PHYSIOLOGY LABORATORY - Virtual human physiological laboratory course meant to enhance the materials covered in HSS 307Human Physiology. Laboratory simulations in human physilogy to cover concepts such as, but not limited to, cell transport mechanisms and permeability, skeletal muscle physiology, endocrine system physiology, cardiovascular dynamics, cardiovascular physiology, respiratory system mechanics, renal system physiology, and blood analysis. Prerequisite(s): BIO 151, BIO 152; (CHM 123, CHM 124) or equivalent; HSS 305. Corequisite(s): HSS 307.

## HSS 320. Essen/Strength Cond. 3 Hours

ESSENTIALS OF STRENGTH CONDITIONING - Course designed to prepare students for the certified strength and conditioning specialist (NSCA) exam. Topics included will pertain to muscular strength and endurance conditioning, physiology of strength conditioning, muscular strength testing and evaluation, and organization/administration of strength training programs.

## HSS 321. Essen/Personal Train. 3 Hours

ESSENTIAL/PERSONAL TRAINING - Essential/Personal Training.

## HSS 325. Women in Sport. 3 Hours

WOMEN IN SPORT - This course studies concepts about women, sport, and society from both a contemporary and historical perspective in an effort to understand the role of women in sport. Additionally, this course will help students understand the evolution and future of women in sport in both the U.S. and internationally.

## HSS 330. Leadership in Sport. 3 Hours

LEADERSHIP IN SPORT - As our society and industries adapt and reinvent themselves, especially in the sport (service) industry, there is a need for individuals within organizations to step up to the role of a leader, independent of their formal position. Therefore, the purpose of this course is for students to start (or continue) to develop their self-awareness, understanding, knowledge and practice of leadership.

## HSS 335. Intro-Athletic Trng. 3 Hours

INTRODUCTION TO ATHLETIC TRAINING - Application of principles and methods involved in prevention, care, and treatment of athletic injuries. Prerequisite(s): HSS 305.

## HSS 345. Med Eval \& Terminlgy. 3 Hours

MEDICAL EVALUATION AND TERMINOLOGY - Medical terminology related to physiological processes.

## HSS 349. Financng Sprt Opertns. 3 Hours

FINANCING SPORT OPERATIONS - The financial concepts and theories and their application in the professional intercollegiate, recreational and commercial sport industries. Topics include revenues and expenses of professional, intercollegiate, and private sport industries; issues affecting these revenues and expenses; fundraising at the intercollegiate level; ownership in sport; and public and private funding for non-profit sports programs.

## HSS 350. Business of Soccer. 3 Hours

BUSINESS OF SOCCER - Business of Soccer.

## HSS 353. Sports Media. 3 Hours

SPORTS MEDIA - This is the study and the appraisal of the media and the role that it plays in contemporary sports. Attention is also given to preparation and evaluation of media sports presentations.

## HSS 354. Sprt-Global Communty. 3 Hours

SPORT IN THE GLOBAL COMMUNITY - Analyze the growth and development of sport throughout the global community with an emphasis on the structure and organization of sport. Additionally the production of major sport events, such as the Olympics and World Cup Soccer Tournament, will be examined. Prerequisite(s): HSS 250.

## HSS 356. HR Managemnt in Sprt. 3 Hours

HUMAN RESOURCES MANAGEMENT IN SPORT - This course is an overview of leadership and human resouce management. The course examines the techniques, policies, processes, strategies, and practices used by health-related and sport companies and managers to effectively and efficiently utilize human resources. Prerequisite(s): HSS 255.

## HSS 357. Sports Marketing. 3 Hours

SPORTS MARKETING - Course content is designed to give students an understanding of marketing principles applied to sport, sport events, and sport products. Marketing strategies including the sales, promotions, and advertising of sport will be emphasized.

## HSS 358. Sales\&Fundrsng Sport. 3 Hours

SALES AND FUNDRAISING IN SPORT - Examination and understanding of sales and fundraising techniques. Students will gain first-hand experience in developing new skills for the job market.

## HSS 401. Nutritnal Biochem I. 3 Hours

NUTRITIONAL BIOCHEMISTRY I - Extension of the student's knowledge of the science of nutrition, stressing the metabolism of food constitutents and recent advances in the field of nutrition. Prerequisite(s): (BIO 403 or HSS 307); CHM 314; HSS 295.

## HSS 402. Nutritn-Aging Adult. 2 Hours

NUTRITION FOR THE AGING ADULT - The study of the process of aging through adulthood. This will focus on the changes in nutritional needs during the aging process. Attention will be paid to the community resources available to help provide optimum nutrition to healthy people as they age.

## HSS 404. Coaching Internship. 1-3 Hours

COACHING INTERNSHIP - Practical coaching experience working in local schools with interscholastic teams. Elective.

## HSS 405. Tsts\&Measrmnts-Sp Sc. 3 Hours

TESTS AND MEASUREMENTS IN SPORT SCIENCE - Direct relationship of tests and measurements to the field of sport science.

## HSS 406. Nutrtn for Mthr/Child. 2 Hours

NUTRITION FOR MOTHER AND CHILD - Physiologic and biochemical principles and results of current research are used to build a foundation for exploration of nutrition from the stages of growth and development, to maturation, and aging. These serve as the basis for consideration of the social, economic, physiologic, and lifestyle factors that influence nutrition status, food choices, and specific life state concerns. Particular attention is paid to using the principles of nutrition in planning and implementing recommendations for dietary change. Prerequisite(s): HSS 295, HSS 307.

## HSS 408. Physiology-Exercise. 3 Hours

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. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

## HSS 408L. Physiology Ex Lab. 1 Hour

PHYSIOLOGY OF EXERCISE LABORATORY - Course to accompany HSS 408. Weekly two-hour laboratory stressing practical applications of exercise physiology. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

## HSS 409. Kinesiology. 3 Hours

KINESIOLOGY - Investigation and analysis of human motion based on anatomical, physiological, and mechanical principles. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

## HSS 409L. Kinesiology Lab. 1 Hour

KINESIOLOGY LABORATORY - Course to accompany HSS 409.
Weekly two-hour laboratory stressing the practical application of kinesiology.

## HSS 422. Exer-Spec Populatns. 3 Hours

EXERCISE FOR SPECIAL POPULATIONS - Course designed to prepare prospective exercise specialists to adapt physical education and exercise so that all individuals can successfully participate in activity programs. A study of various disabilities and conditions in order to organize and administer a program which will meet individual needs.

## HSS 428. Rsch in Phys Act\&HIth. 3 Hours

RESEARCH IN PHYSICAL ACTIVITY AND HEALTH - An introduction to statistical analysis and research methodology. Emphasis will be on the use of these in determining health statistics, designing and evaluating health studies, accessing data banks; collection, analysis and interpretation of health statistics.

## HSS 439. Prof Sem in Dietetics. 2 Hours

PROFESSIONAL SEMINAR IN DIETETICS - This guided practicum and seminar will provide an opportunity for candidates to develop and apply their knowledge of typical and atypical development from conception to age 3 as they observe young children in an infant/toddler classroom setting. Theories and research based practices related to infant and toddler care and education will be discussed. Candidates will conduct naturalistic assessment, identify developmental milestones and related risk factors, and will plan and execute play-based strategies to support develoment. 45 contact hours of field experience is required,.

## HSS 448. Safty\&Law- PE Sports. 3 Hours

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.

## HSS 455. Sel Studies-Exer Sci. 1-3 Hours

SELECTED STUDIES IN EXERCISE SCIENCE - Investigating, analyzing, and reporting on a problem in physical education. Prerequisite(s): Permission of department chairperson.

## HSS 456. Nutrnl Biochemstryll. 3 Hours

NUTRITIONAL BIOCHEMISTRY II - Integration and application of principles of physiology, nutrition and biochemistry to the processes of metabolic function.

## HSS 465. Phys Therapy Seminar. 3 Hours

PHYSICAL THERAPY SEMINAR - Addresses current issues facing prospective and present physical therapists in a reforming healthcare industry.

## HSS 485. Sport Mgt Internship. 3 Hours

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.

## HSS 490. Exer Sci Internship. 2 Hours

EXERCISE SCIENCE INTERSHIP-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.

## HSS 491. Exer Sci Internship. 1-3 Hours

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.

## HSS 495. Med Nutrition Thrpy. 4 Hours

MEDICAL NUTRITION THERAPY - Includes the study of professional development assessment, nutrition care planning and the appropriate medical nutriton physiology in humans. Designed for those planning to become a registered dietician. Prerequisite(s): (BIO 403 or HSS 307); CHM 314; HSS 401.

## HSS 498. Honors Thesis. 3 Hours

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 Berry Scholars Program with permission of the program director.

## HSS 499. Honors Thesis. 3 Hours

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 Berry Scholars Program with permission of the program director.

## Teacher Education

Majors:

- Bachelor of Science in Education, Adolescence to Young Adult
- Bachelor of Science in Education, Early Childhood Education
- Bachelor of Science in Education, Early Childhood Leadership and Advocacy
- Bachelor of Science in Education, Foreign Language Education
- Bachelor of Science in Education, Intervention Specialist
- Bachelor of Science in Education, Middle Childhood Education
- Bachelor of Science in Education, Secondary Catholic Religion Education
- Bachelor of Science in Education, Visual Arts Education


## Endorsements:

- Early Childhood Generalist
- Pre-Kindergarten Special Needs
- Middle Childhood Generalist

Certificates:

- Early Intervention
- Early Childhood Leadership and Advocacy

The University of Dayton's Department of Teacher Education has adopted a theme that is integrated throughout the program of study and is consistent with the school-wide conceptual framework. The theme of "Teacher as Reflective Decision Maker in a Pluralistic Society" is appropriate because of the complex needs of students from diverse backgrounds. The department adopted this theme in accordance with the University's Marianist mission which encourages students to take an active role in improving the larger community, and also reflects the unit outcomes for the SOEAP which include:

- Embracing diversity
- Building community
- Engaging in critical reflection
- Developing as scholarly practitioner

The Department has established a selection and retention policy that requires students to demonstrate throughout their program of study
a 2.5 grade-point average overall, in professional education courses, and in teaching fields; ability to pass all three sections of Praxis I, and competency in demonstrating particular objectives in field-based experiences. To receive a provisional license at the completion of their programs, all students are required to pass the Praxis II examination(s) mandated by Ohio's Department of Education, verify they are of "good moral character," and have a valid, acceptable background check (fingerprint checks - Ohio and national - on file with the Ohio Department of Education).

## Teacher Education Undergraduate Academic policies

1. Candidates for undergraduate licensure are placed in schools in the Miami Valley area for all clinical experiences. Student teaching is the capstone clinical experience for the preparation programs. 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.
2. An education course taken as an independent study cannot be applied toward teacher licensure.
3. Independent study is not available for regularly scheduled undergraduate courses.
4. Candidates must meet each of the following benchmarks:

- Cumulative grade point average must be \# 2.5
- Grade point average in each teaching concentration must be \# 2.5 prior to entry into the clinical experience (methods)
- Grade point average in professional education courses must be \# 2.5 after completing EDT 110 and the program specific development course, and maintained at \# 2.5 thereafter
- PRAXIS I: Must pass/be exempt all sections
- Grade of C- or higher in all EDT courses
- Grade of $S$ in all EDT labs prior to entry into clinical experience
- Unexcused absences in a Teacher Education course cannot exceed $13 \%$ in any given course


## Faculty

Connie L. Bowman, Chairperson
Professors Emeriti: Anderson, Frye, Fuchs, Geiger, Joseph, Sudzina Professors: Hart, Kinnucan-Welsch, Lasley, Rowley, Talbert-Johnson, Watras
Associate Professors: Adams, Baldwin, Biddle, Bowman, Collopy, Herrelko, Hunn, Kelly, Richards, Tillman
Assistant Professors: Bogard, Coovert, White Lecturer: Mullins
Clinical Faculty: Arnold, Engelhardt, Gallagher, Mathes, Nenonene, Sableski, Scheuermann

## Bachelor of Science in Education with a major in Adolescence to Young Adult Education (EYA)

The Department of Teacher Education offers the program in adolescence to young adult, which leads to the Bachelor of Science in Education and a license to teach learners ages twelve through twenty-one and grades seven through twelve.
A student in the Adolescence to Young Adult Education Program is required to have a single comprehensive teaching field. The number of semester hours to complete the teaching field requirements is dependent upon the chosen teaching field and the concentration within the teaching field. PRAXIS I is required, or waived based on SAT/ACT scores, by the
end of the first year. Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average are required for the teaching field in which provisional licensure is sought. A student must maintain a 2.5 grade point average in their professional education courses, in their content area, and overall, in order to continue in the program, to student teach, and to be recommended for licensure. Eighty percent of concentration content coursework must be completed before entering senior year methods/student teaching experience. Students must verify "good moral character," be fingerprinted, and pass the required Praxis II exams in Professional Knowledge and the content area to be recommended for the State of Ohio resident educator license.

Adolescence to young adult education teaching fields include the following:

- Integrated Language Arts
- Integrated Mathematics
- Integrated Science
- Integrated Social Studies
- Earth Sciences/Chemistry
- Earth Sciences/Physics
- Earth Sciences
- Life Sciences/Chemistry
- Life Sciences/Earth
- Life Sciences/Physics
- Life Sciences
- Physical Sciences/Chemistry
- Physical Sciences/Physics
- Physical Sciences/Physics \& Chemistry
- Leading to Ohio Adolescence to Young Adult License: grades 7-12.

| CMM 110 | Group Dec-Making | 1 |
| :---: | :---: | :---: |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng ${ }^{1}$ | 1 |
| EDT 110 | Profession-Teachng | 3 |
| \& 110L | and Prfssn Tchng Lab ${ }^{1}$ |  |
| EDT 222 | Devipmnt-MC \& AYA | 4 |
| \& 222L | and Dvplmt MC \& AYA lab ${ }^{1}$ |  |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| EDT 338 | Teaching \& Learning | 4 |
| \& 338L | and Teach \& Learn ${ }^{2}$ |  |
| EDT 340 | Ed Dvse St Pop -Incl | 3 |
| \& 340L | and Ed Dvs st Pop Inc Lb ${ }^{2}$ |  |
| EDT 459 | Crt Rdg Wrtg Cnt Ar ${ }^{3}$ | 3 |
| EDT 436 | AYA Capstone Course | 3 |
| EDT 475 | Student Teachng AYA ${ }^{4}$ | 12 |
| EDT Special methods in teaching field ${ }^{1,3}$ |  | 4 |
| EDT Special methods lab |  | 1 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 114 | Contemporary Math ${ }^{5}$ | 3 |
| PHL 103 | Intro To Philosophy | 3 |


| REL 103 Intro to Religion | 3 |
| :--- | :---: |
| Arts Study elective | 3 |
| Concentration (10 courses) | 30 |
| Concentration/elective (6 courses) | 18 |
| Elective | 2 |
| Historical Study elective | 3 |
| PHL/REL elective | 3 |
| Science electives | 6 |
| Science lab electives | 2 |
| Social Sciences elective | 3 |
| Total Hours | 132 |

1 Field experiences are arranged by the University. Must register for lab.
2 Designates cohort courses to be taken together in the same semester
3 EDT 459 and special methods in teaching field must be taken concurrently.
4 Students will have a required seminar throughout the semester.
5 Only applicable to Language Arts and Social Studies majors.

## Bachelor of Science in Education with a major in Early Childhood Education (ece)

The Department of Teacher Education offers the program in early childhood education, which leads to the Bachelor of Science in Education and a license to teach prekindergarten through grade 3.

A student in the Early Childhood Education Program is required to choose an area of focus for elective coursework which must bring the total number of credit hours to 124 which is required for graduation.

Successful completion of EDT field experiences and a 2.5 cumulative grade point average is required overall and in professional education courses to continue in the program, to student teach, and to be recommended for licensure. PRAXIS I is required or waived (with eligible SAT or ACT scores) by the end of the first year. Students must verify "good moral character," be fingerprinted, and pass the required Praxis Il exams to be recommended for the State of Ohio resident educator license.

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :--- |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng | 1 |
| EDT 110 | Profession-Teachng | 3 |
| \& 110L | and Prfssn Tchng Lab |  |
| EDT 211 | Chld Dev Birth-8 | 4 |
| \& 211L | and Chld Dev Brth-8 Lab |  |
| EDT 212 | Erly Child Thry\&Prac | 3 |
| \& 212L | and Erly Cdhd Thy\&Prc Lb ${ }^{1}$ |  |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| EDT 313 | Dvmt App Prac Prsc | 4 |
| \& 313L | and Dvmt App Prc Prsc Lb ${ }^{2}$ |  |
| EDT 317 | Intg Arts ECE Curric ${ }^{2}$ | 2 |
| EDT 340 | Ed Dvse St Pop -Incl |  |
| \& 340L | and Ed Dvs st Pop Inc Lb ${ }^{2,3}$ | 3 |


| EDT 341 | Lng Dvip\&Emergnt Lit | 3 |
| :---: | :---: | :---: |
| EDT 350 | Find Literacy Thr Lit | 3 |
| EDT 412 | Dev App Prc Mth-ECE ${ }^{2}$ | 3 |
| EDT 413 | Dv App Prc SocSt-ECE ${ }^{2}$ | 2 |
| EDT 414 | Dev App Prac Sci-ECE ${ }^{2}$ | 3 |
| $\begin{aligned} & \text { EDT } 415 \\ & \& 415 \mathrm{~L} \end{aligned}$ | Wk w/Lrnr MId/Mod Ed and ECE K-3 Fld Intrnshp ${ }^{2}$ | 4 |
| EDT 450 | Phonics,Spell, Voc | 3 |
| EDT 453 | Intro-Ltrcy-Er Chld ${ }^{2}$ | 3 |
| EDT 454 | Mth Lit Instr Asmt EC ${ }^{2}$ | 3 |
| EDT 472 | PKSE Internship ${ }^{4}$ | 5 |
| EDT 473 | Stdnt Tchng-Prim ${ }^{5}$ | 3-12 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| GEO 204 | Geology for Teachers | 4 |
| HST 103 | West and World | 3 |
| HST 251 | Amer Hst to 1865 | 3 |
| MUS 104 | Mus Lit-Elem Classrm | 2 |
| MTH 204 | Math Concepts I | 3 |
| MTH 205 | Math Concepts II | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| $\begin{aligned} & \text { SCI } 190 \\ & \& 190 \mathrm{~L} \end{aligned}$ | The Physical Universe and Physical Univrse Lab | 4 |
| $\begin{aligned} & \text { SCI } 230 \\ & \& 230 \mathrm{~L} \end{aligned}$ | Org,Evol,Envrmnt and Org,Evl,Envirn Lab | 4 |
| SWK 325 | Child Abuse | 3 |
| VAE 101 | Early Chldhd Art Ed | 2 |
| Arts Study elective |  | 3 |
| Focus area electives (2-3 courses) |  | 4-9 |
| PHL/REL elective |  | 3 |
| Total Hours |  | 114-128 |

1 Field experiences arranged at the Bombeck Family Learning Center.
2 Designates cohort courses to be taken together in the same semester.
3 Field experiences are arranged by the University. Must register for lab.
4 Course should only be taken by students pursuing PKSN focus area.
5 Students persuing PKSN focus area should take course for ten semester hours, all other students should take course for twelve semester hours.

## Bachelor of Science in Education with a major in Early Childhood Leadership and Advocacy (ecl)

The Department of Teacher Education offers a Bachelor of Science in Education degree in Early Childhood Leadership and Advocacy. Students will be admitted after earning an Associate's Degree or equivalent in ECE or related field, and have met the following general education requirements for a total of at least 76 semester hours including nine or more semester hours from one or more four year institutions.

A student in the Early Childhood Leadership and Advocacy program is required to complete 30 semester credit hours of professional education coursework, plus an additional 15 semester credit hours of UD workshop credit for specialty training, to achieve 121 semester credit hours.

| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { EDT } 340 \\ & \& 340 \mathrm{~L} \end{aligned}$ | Ed Dvse St Pop -Incl and Ed Dvs st Pop Inc Lb | 3 |
| EDT 344 | Coll w/Prnt/Coll/Agn | 3 |
| EDT 460E <br> \& 460EL | ErlyChldPrgmPersnIMng and ErlyDhdPrgmPrsnIMngLb | 3-4 |
| EDT 461E <br> \& 461EL | SptQltyClminsElyCrEd and SptQltyClminsElyCrEd | $3-4$ |
| $\begin{aligned} & \text { EDT 462E } \\ & \& 462 E L \end{aligned}$ | RgnsLcsLwErlyCreEd and RgnsLensLwErlyCrEdLb | 3-4 |
| EDT 463E <br> \& 463EL | MngFncsMktErlyCareEd and MngFncsMktErlyCrEdLb | 3 |
| EDT 464E | AdvcyErlyCreEd | 3 |
| EDT 465E | ItrnPrctmErlyChldAdm | 6 |
| Workshop |  | 12 |
| Total Hours |  | 42-45 |

## Bachelor of Science in Education with a major in Foreign Language Education (ELA)

The Department of Teacher Education offers a Bachelor of Science in Education, which leads to licensure to teach learners kindergarten through grade twelve. Three teaching concentrations are available: French, German, and Spanish.
Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average is required overall and in professional education courses to continue in the program, to student teach, and to be recommended for licensure. PRAXIS I, is required or waived, by the end of the first year. Students should take electives as needed to achieve 124 semester credit hours. Students must verify "good moral character," be fingerprinted, and pass the required Praxis II exams to be recommended for the State of Ohio resident educator license.

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :--- |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp | 1 |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng | 3 |
| EDT 110 | Profession-Teachng |  |
| \& 110L | and Prfssn Tchng Lab |  |
| EDT 207 | Chld\&Adol In Eductn <br> \& 207L | 4 |
| EDT 305 | Phil\&Hist of Amer Ed |  |
| EDT 338 | Teaching \& Learning <br> \& 338L | 3 |
| EDT 340 | Ed Dvse St Pop -Incl <br> \& 340L | 4 |
| EDT 433 | Foreign Lng-AYA |  |
| \& 433L | and Frn Lng Mth Fld Intp | 3 |
| EDT 471 | Stdt Tch:Lang PK-12 | 5 |
| ENG 100 | Writing Seminar I |  |
| ENG 200 | Writing Seminar II | 12 |


| HST 103 | West and World | 3 |
| :--- | :--- | :---: |
| LNG 320 | Instruc 2nd Lang Acqstn | 2 |
| LNG 330 | Tch Wrld Lng-Elm Sch(PK-6) | 4 |
| LNG 468 | Intro Linguistics | 3 |
| MTH 114 | Contemporary Math | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| Arts study elective | 3 |  |
| Concentration (12 courses) ${ }^{2}$ | 36 |  |
| Concentration/electives (3 courses) | 9 |  |
| Historical Study elective | 3 |  |
| PHL/REL elective | 3 |  |
| Science electives | 6 |  |
| Science lab electives | 2 |  |
| Social Sciences elective | 3 |  |
| Study Abroad (Concentration) ${ }^{1}$ | $2-14$ |  |
| Total Hours | $132-14$ |  |

1 Participation in an approved study-abroad immersion program for a summer, semester, or academic year is strongly recommended. Experience shows that study abroad is a major factor in the successful completion of the professional requirements: field experiences, PRAXIS II and other required examinations in foreign languages.
2 One course must be FRN 469, GER 469, or SPN 469.

## Bachelor of Science in Education with a major in Intervention Specialist (eis)

The Department of Teacher Education offers a Bachelor of Science in Education, with a major in Intervention Specialist, which leads to licensure to teach learners kindergarten through grade twelve with mild to moderate educational needs. Students in this program also have an emphasis in the middle childhood studies.
Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average is required overall and in professional education courses to continue in the program, to student teach, and to be recommended for licensure. PRAXIS $I$, is required or waived, by the end of the first year. Students should take electives as needed to achieve 124 semester credit hours. Students must verify "good moral character," be fingerprinted, and pass the required Praxis II exams to be recommended for the State of Ohio resident educator license.

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :--- |
| CMM 111 | Inform Public Sp |  |
| or CMM 112 | Persuasive Public Sp | 1 |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng ${ }^{\text {1 }}$ | 1 |
| EDT 110 | Profession-Teachng | 3 |
| \& 110L | and Prfssn Tchng Lab ${ }^{2}$ |  |
| EDT 207 | Chld\&Adol In Eductn | 4 |
| \& 207L | and Chld \& Adlsct Ed Lab ${ }^{2}$ |  |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| EDT 321 | Clrm Env Mid Chdhd <br> \& 321L | and Clsrm Envmnt MC Lab ${ }^{2,3}$ |


| EDT 342 | Behavior Management | 3 |
| :---: | :---: | :---: |
| EDT 343 | Lrn w/Mld-Mod Ed Nds | 3 |
| \& 343L | and Ed Lrn Md/Mod Prb Lb ${ }^{2}$ |  |
| EDT 344 | Coll w/Prnt/Coll/Agn | 3 |
| EDT 350 | Find Literacy Thr Lit | 3 |
| EDT 425 | Md Schl Prin\&Prac | 3 |
| EDT 441 <br> \& 441L | Cnt Stnd Stdt Sp Nds and Cnt Stnrd Sp Nds Lab | 3 |
| EDT 442 <br> \& 442L | Assmt:MId/Moderate | 4 |
|  | and IS MId/Mod Fld Intp ${ }^{2}$ |  |
| EDT 443 | Curriculum M/M ${ }^{2}$ | 2 |
| EDT 444 | Instr Strat:MId/Mod ${ }^{2}$ | 3 |
| EDT 445 | Appl-Cmputr\&Technlgy | 2 |
| EDT 450 | Phonics,Spell, Voc | 3 |
| EDT 453 | Intro-Ltrcy-Er Chld | 3 |
| EDT 454 | Mth Lit Instr Asmt EC | 3 |
| EDT 476 | Stdnt Tchng-Mild/Mod | 12 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| GEO 204 | Geology for Teachers | 4 |
| HST 103 | West and World | 3 |
| HST 251 | Amer Hst to 1865 | 3 |
| or HST 252 | Amer Hst Since 1865 |  |
| MTH 204 | Math Concepts I | 3 |
| MTH 205 | Math Concepts II | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| SCI 190 | The Physical Universe | 4 |
| \& 190L | and Physical Univrse Lab ${ }^{4}$ |  |
| SCI 230 | Org,Evol,Envrmnt | 4 |
| \& 230L | and Org,Evl,Envirn Lab ${ }^{4}$ |  |
| Arts Study elective |  | 3 |
| Electives (4 courses) |  | 12 |
| Social Sciences elective |  | 3 |
| PHL/REL elective |  | 3 |
| Total Hours |  | 12 |

1 Field experiences are arranged by the University. Must register for lab.
2 Lecture and lab must be taken concurrently. EDT 443 \& 444 must be taken concurrently. Field experience is required.
3 Designates cohort courses to be taken together in the same semester.
4 Students should take a lab with either SCI 190, or SCI 230.

## Bachelor of Science in Education with a major in Middle Childhood Education (ems)

The Department of Teacher Education offers the program in middle childhood education, which leads to the Bachelor of Science in Education and a license to teach grades 4-9.

A student in the Middle Childhood Education Program is required to have two concentrations of 24 or more semester hours in the following content areas:

- Mathematics
- Science
- Social Studies
- Reading/Language Arts

Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average is required overall, in professional education courses and in each of the concentration areas to continue in the program, to student teach, and to be recommended for licensure. PRAXIS I, is required or waived, by the end of the first year. Eighty percent of content coursework in both concentrations must be completed before entering senior year methods/student teaching experience. Students should take electives as needed to achieve 124 semester credit hours. Students must verify "good moral character," be fingerprinted, and pass the required Praxis II exams to be recommended for the State of Ohio resident educator license.

| CMM 110 | Group Dec-Making | 1 |
| :---: | :---: | :---: |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng | 1 |
| EDT 110 | Profession-Teachng | 3 |
| \& 110L | and Prfssn Tchng Lab ${ }^{1}$ |  |
| EDT 222 | Devipmnt-MC \& AYA | 4 |
| \& 222L | and Dvplmt MC \& AYA lab ${ }^{1}$ |  |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| EDT 321 | Clrm Env Mid Chahd | 4 |
| \& 321L | and Clsrm Envmnt MC Lab ${ }^{1,2}$ |  |
| EDT 340 | Ed Dvse St Pop -Incl | 3 |
| \& 340L | and Ed Dvs st Pop Inc Lb ${ }^{1,2}$ |  |
| EDT 350 | Find Literacy Thr Lit | 3 |
| EDT 425 | Md Schl Prin\&Prac | 3 |
| \& 425L | and Mid Chld Prin\&Prac Lb |  |
| EDT 450 | Phonics,Spell, Voc | 3 |
| EDT 452 | Readng-Contnt Areas | 3 |
| EDT 458 | Reading Methods MCE | 4 |
| \& 458L | and MCE MI Fld Intnshp ${ }^{1,2}$ |  |
| EDT 474 | Std Tch Mid Chldhd | 12 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| GEO 204 | Geology for Teachers | 4 |
| HST 103 | West and World | 3 |
| MTH 114 | Contemporary Math | 3 |
| or MTH 207 | Intro to Statistics |  |
| MUS 232 | Integrating the Arts | 2 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| SCI 190 | The Physical Universe | 4 |
| \& 190L | and Physical Univrse Lab |  |
| VAE 232 | Integrating the Arts | 2 |
| Methods courses (select two): |  | 6 |


| EDT 426 | Rdg/Lng Arts-MC |  |
| :---: | :--- | :---: |
| EDT 427 | Math-Middle Childhd |  |
| EDT 428 | Sci-Middle Childhd |  |
| EDT 429 | Soc Std-Middle Chld | 36 |
| Concentration (12 courses) ${ }^{3}$ | 3 |  |
| Elective | 3 |  |
| General Education HST requirement | 3 |  |
| PHL/REL elective | 3 |  |
| Social Science elective | 133 |  |
| Total Hours |  |  |

1 Field experiences are arranged by the University. Must register for Lab.
2 Designates cohort courses to be taken together in the same semester.
3 Fewer concentration hours may be required depending upon chosen concentrations.

## Bachelor of Science in Education with a major in Secondary Catholic Religious Education (ERL)

The Department of Teacher Education offers the Bachelor of Science in Education program in secondary religious education, which leads to the Archdiocese of Cincinnati Certificate to teach religion grades 7-12.

Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average is required overall and in professional education courses to continue in the program, to student teach, and to be recommended for the certificate. PRAXIS I, is required or waived, by the end of the first year. Students should take electives as needed to achieve 124 semester credit hours.

| CMM 110 | Group Dec-Making | 1 |
| :--- | :--- | :---: |
| CMM 111 | Inform Public Sp |  |
| or CMM 112 | Persuasive Public Sp | 1 |
| CMM 113 | Interviewing |  |
| EDT 109 | Persnl Aspcts-Tchng | 1 |
| EDT 110 | Profession-Teachng |  |
| \& 110L | and Prfssn Tchng Lab | 1 |
| EDT 222 | Devlpmnt-MC \& AYA | 3 |
| \& 222L | and DvpImt MC \& AYA lab |  |
| EDT 305 | Phil\&Hist of Amer Ed | 4 |
| EDT 331L | Religion Methods Lab | 3 |
| EDT 338 | Teaching \& Learning | $0-1$ |
| \& 338L | and Teach \& Learn | 4 |
| EDT 340 | Ed Dvse St Pop -Incl |  |
| \& 340L | and Ed Dvs st Pop Inc Lb | 3 |
| EDT 459 | Crt Rdg Wrtg Cnt Ar | 3 |
| EDT 475 | Student Teachng AYA | 12 |
| ENG 100 | Writing Seminar I |  |
| \& ENG 200 | and Writing Seminar II | $3-6$ |
| or ENG 200H | Writing Seminar II |  |
| HST 103 | West and World ${ }^{1}$ | 3 |
| MTH 114 | Contemporary Math | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PSY 451 | PSY of Religion ${ }^{2}$ | 3 |


| or SOC 334 | Religion \& Society |  |
| :---: | :---: | :---: |
| REL 103 | Intro to Religion | 3 |
| REL 327 | US Religious Expr ${ }^{1,3}$ | 3 |
| REL 328 | US Cath Experience ${ }^{1,3}$ | 3 |
| REL 323 | Hst-Christianty I ${ }^{1,2,3}$ | 3 |
| or REL 324 | Hst-Christianty II |  |
| $\begin{aligned} & \text { SCI } 190 \\ & \& 190 \mathrm{~L} \end{aligned}$ | The Physical Universe and Physical Univrse Lab | 4 |
| Cluster (select one): |  | 3 |
| REL 329 | African Amer Rel ${ }^{1,3}$ |  |
| ENG 328 | Amer Nobel Authors |  |
| ENG 384 | Chrstnty\&Mod Poetry |  |
| MUS 350 | Sacred Music Hst ${ }^{2}$ |  |
| Doctrine elective ${ }^{1}$ |  | 3 |
| Electives (9 courses) ${ }^{4}$ |  | 27 |
| Liturgical/Sacramental elective ${ }^{1}$ |  | 3 |
| Morality elective ${ }^{1}$ |  | 3 |
| REL Forum (4 semesters) |  | 1 |
| Scripture elective ${ }^{1}$ |  | 3 |
| Science elective and lab |  | 4 |
| World Religion elective ${ }^{1,3}$ |  | 3 |

Total Hours 117-121

1 A minimum of 30 semester hours in religious studies must be completed. At least one course must be taken from each of the following areas: Doctrine, Historical, Liturgical/Sacramental Theology, Morality, Scripture.
2 Take PSY 451 or SOC 334 and ENG 323 or ENG 384 or MUS 350 and REL 323 or REL 324 to meet UD's upper level general education electives for social science, art study, and historical study and to fulfill the requirements for the Catholic Intellectual Tradition cluster.
3 REL 327, REL 328, REL 329, and any level world religion course is highly recommended to achieve the required 30 hours in religious studies.
4 This program includes 21 hours of unspecified elective coursework which can be used to meet the requirements for one of the concentration areas that lead to the Adolescence to Young Adult Teaching License. See checksheets at http://soeap.udayton.edu/ academic/edt/checksht/eya.htm. Summer coursework and/or an additional year of study may be required.

## Bachelor of Science in Education with a major in Visual Arts Education (EAR)

The Department of Teacher Education offers a Bachelor of Science in Education, which leads to licensure to teach learners kindergarten through grade twelve. Four teaching concentrations are available: Art History, Studio Art, Photography, and Visual Communication..
Successful completion of EDT clinical experiences and a 2.5 cumulative grade point average is required overall and in professional education courses to continue in the program, to student teach, and to be recommended for licensure. PRAXIS I, is required or waived, by the end of the first year. Students should take electives as needed to achieve 124 semester credit hours. Students must verify "good moral character," be
fingerprinted, and pass the required Praxis II exams to be recommended for the State of Ohio resident educator license.

| CMM 110 | Group Dec-Making | 1 |
| :---: | :---: | :---: |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| EDT 109 | Persnl Aspcts-Tchng | 1 |
| $\begin{aligned} & \text { EDT } 110 \\ & \text { \& 110L } \end{aligned}$ | Profession-Teachng and Prfssn Tchng Lab | 3 |
| $\begin{aligned} & \text { EDT } 207 \\ & \& 207 L \end{aligned}$ | Chld\&Adol In Eductn and Chld \& Adlsct Ed Lab | 4 |
| EDT 305 | Phil\&Hist of Amer Ed | 3 |
| $\begin{aligned} & \text { EDT } 340 \\ & \& 340 \mathrm{~L} \end{aligned}$ | Ed Dvse St Pop -Incl and Ed Dvs st Pop Inc Lb | 3 |
| EDT 459 | Crt Rdg Wrtg Cnt Ar | 3 |
| EDT 477 | Stdt Tchng-Art K-12 | 12 |
| ENG 100 | Writing Seminar I | 3 |
| ENG 200 | Writing Seminar II | 3 |
| HST 103 | West and World | 3 |
| MTH 114 | Contemporary Math | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| REL 103 | Intro to Religion | 3 |
| VAE 231 | Intro-Art Ed | 2 |
| VAE 383 | Foundatn of Art Ed | 3 |
| VAE 483 | Tch Visual Arts | 3 |
| VAF 104 | Foundation Drawing | 3 |
| VAF 112 | Foundation 2-D Dsgn | 3 |
| VAF 117 | Foundation 3-D Dsgn | 3 |
| VAF 216 | Design and Color | 3 |
| VAF 226 | Painting I | 3 |
| VAF 232 | Sculpture I | 3 |
| VAF 240 | Ceramics I | 3 |
| or VAF 242 | Ceramics II |  |
| VAF 253 | Printmaking I | 3 |
| or VAF 353 | Printmaking II |  |
| VAH 470 | 19th Century Art I | 3 |
| or VAH 471 | 19th Century Art II |  |
| or VAH 483 | 20th Century Art II |  |
| VAP 101 | Foundatn Photogrphy | 3 |
| Select two courses from: |  | 6 |
| VAH 201 | Survey of Art I |  |
| VAH 202 | Survey of Art II |  |
| VAH 203 | Survey of Art III |  |
| Arts Study elective |  | 3 |
| Elective |  | 2 |
| PHL/REL Elective |  | 3 |
| Science electives |  | 6 |
| Science lab electives |  | 2 |
| Social Science elective |  | 3 |
| VAH Elective |  | 3 |
| VAR Concentrations (5 courses) |  | 15 |
| Total Hours |  | 131 |

## Early Childhood Generalist Endorsement

The Department of Teacher Education offers the Early Childhood Generalist Endorsement. The endorsement will allow teachers in selfcontained 4th and 5th grade classrooms to teach the concentration areas of math, science and social studies. Students enrolled in an Early Childhood license program may complete the coursework for the Early Childhood Generalist Endorsement as a focus area for their undergraduate degree.

| Early Childhood Generalist Endorsement |  |  |
| :--- | :--- | :--- |
| EDT 409 | Math $4 \& 5$ Grades | 3 |
| EDT 410 | Science $4 \& 5$ Grades | 3 |
| EDT 411 | Soc Stud 4\&5 Grades | 3 |
| Total Hours |  | 9 |

## Early Intervention Certificate

The Department of Teacher Education offers the Early Intervention Certificate. This certificate allows servicing infants and toddlers, ages birth through two, who have an identified developmental delay or who are at risk for developing such a delay. The young child is served within the context of its family. Students enrolled in an Early Childhood License program may complete the coursework for the Early Intervention Certificate as a focus area for their undergraduate degree.

| Early Intervention Certificate |  |  |
| :--- | :--- | ---: |
| EDT 312 | Infant/Toddler Pract | 2 |
| EDT 314 | Coll Asmnt \& Team Mdls | 3 |
| EDT 315 | Hlth\&Med Early Cldhd | 2 |
| EDT 341 | Lng Dvip\&Emergnt Lit | 3 |
| EDT 344 | Coll w/Prnt/Coll/Agn | 3 |
| Total Hours |  | 13 |

## Pre-Kindergarten Special Needs Endorsement

The Department of Teacher Education offers the Pre-Kindergarten Special Needs Endorsement (formerly the Early Education of the Handicapped Validation (VAL.ECE.EEH). This endorsement can be added to an existing pre-kindergarten certificate, a special education certificate, or a intervention specialist or early childhood license and allows teachers to teach children ages $3-5$ who have mild or moderate to intensive needs. Students enrolled in an Early Childhood License program may complete the coursework for the Pre-Kindergarten Special Needs Endorsement as a focus area for their undergraduate degree.

## Pre-Kindergarten Special Needs Endorsement

| EDT 314 | Coll Asmnt \& Team Mdls | 3 |
| :--- | :--- | :---: |
| EDT 315 | Hlth\&Med Early Cldhd | 2 |
| EDT 341 | Lng Dvlp\&Emergnt Lit | 3 |
| EDT 344 | Coll w/Prnt/Coll/Agn | 3 |
| EDT 472 | PKSE Internship | 5 |
| Total Hours |  | 16 |

## Early Childhood Leadership and Advocacy Certificate

The Department of Teacher Education offers the Early Childhood Leadership and Advocacy Certificate. This certificate provides knowledge and skills required of program administrators, supervisors, teacher leaders, and advocates for effective leadership and advocacy in a variety of early childhood settings. Students enrolled in an Early

Childhood License program may complete the coursework for the Early Childhood Leadership and Advocacy Certificate as a focus area for their undergraduate degree.

| $\begin{aligned} & \text { EDT 460E } \\ & \& 460 E L \end{aligned}$ | ErlyChldPrgmPersnIMng and ErlyDhdPrgmPrsnIMngLb | 3-4 |
| :---: | :---: | :---: |
| EDT 461E <br> \& 461EL | SptQltyCIminsElyCrEd and SptQltyClminsElyCrEd | 3-4 |
| $\begin{aligned} & \text { EDT 462E } \\ & \& 462 E L \end{aligned}$ | RgnsLcsLwErlyCreEd and RgnsLensLwErlyCrEdLb | 3-4 |
| EDT 463E | MngFncsMktErlyCareEd | 3 |
| EDT 464E | AdvcyErlyCreEd | 3 |
| EDT 465E | ItrnPrctmErlyChldAdm | 6 |
| Total Hours |  | 21-2 |

## Middle Childhood Generalist Endorsement

The Department of Teacher Education offers the Middle Childhood Generalist Endorsement. This endorsement can be added to any existing Middle Childhood License for any combination of the four areas of concentration. The generalist endorsement will allow teachers to teach grades 4-6 only. Candidates must pass the required PRAXIS II exam(s) to receive the endorsement or pass the PRAXIS II Curriculum, Instruction, and Assessment prior to licensure.

| Middle Childhood Generalist Endorsement |  |  |
| :--- | :--- | :--- |
| Language and Reading |  |  |
| EDT 426 | Rdg/Lng Arts-MC | 3 |
| EDT 608 | The Writing Classrm | 3 |
| Mathematics |  | 3 |
| EDT 427 | Math-Middle Childhd | 3 |
| MTH 266 | Disc\&Fin Mth in MS |  |
| Science |  | 3 |
| EDT 428 | Sci-Middle Childhd | 4 |
| Select one sequence from: |  |  |

Select one sequence from: 4
SCI $190 \quad$ The Physical Universe
\& 190L and Physical Univrse Lab
SCI 210 The Dynamic Earth
\& 210L and The Dynamic Erth Lab
SCI 230 Org,Evol,Envrmnt
\& 230L and Org,Evl,Envirn Lab
Social Studies
EDT 429 Soc Std-Middle Chld 3

| HST 251 | Amer Hst to 1865 | 35 |
| :--- | ---: | ---: |
| Total Hours |  |  |

## Courses

## EDT 109. Persnl Aspcts-Tchng. 1 Hour

PERSONAL ASPECTS OF TEACHING - This course is a candidate's general introduction to education as a profession, and to the University of Dayton. Candidates' personal values, goals, motives and strengths will be identified and reflected upon in relation to the qualities and dispositions necessary to be an effective teacher. This course serves as an introduction to the different program areas (AYA, MCE, ECE, IS and multi-age), to technology in education and to various educational issues. EDT 109 is waived for those candidates who transfer to the University.

## EDT 110. Profession-Teachng. 2 Hours

THE PROFESSION OF TEACHING - This course is designed to study the principal components of effective teaching that facilitate the learning of all students. Current educational issues, the Ohio Standards for the Teaching Profession and other professional standards, developing a community of learners, service learning and teaching incorporating the Marianist traditions are other topics of the course. Field experience: 20 hours. Prerequisite(s): EDT 109 or permission of dean's undergraduate coordinator. Corequisite(s): EDT 110L.

## EDT 110L. Prfssn Tchng Lab. 1 Hour

THE PROFESSION OF TEACHING LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in school settings. Corequisite(s): EDT 110.

## EDT 207. Chld\&Adol In Eductn. 3 Hours

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 are discussed. Field experience required. Prerequisite(s): EDT 110. Corequisite(s): EDT 207L.

## EDT 207L. Chld \& Adlsct Ed Lab. 1 Hour

CHILD AND ADOLESCENT IN EDUCATION LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to child and adolescent development in school settings. Corequisite(s): EDT 207.

## EDT 211. Chld Dev Birth-8. 3 Hours

CHILD DEVELOPMENT: BIRTH TO AGE 8 - This course focuses on the study of typical physical, motor, social-emotional, and aesthetic development of young children ages preconception through eight. Assessment, risk factors, environmental design and guiding behavior are covered. Students will use this knowledge to reflect on and make decisions about practices that serve the needs of young children and their families. This course relies on field experience to be completed at the Bombeck Family Learning Center. Prerequisite(s): EDT 110. Corequisite(s): EDT 211L.

## EDT 211L. Chid Dev Brth-8 Lab. 1 Hour

CHILD DEVELOPMENT: BIRTH TO AGE 8 LABORATORY - This 45 contact hour practicum course is one semester of a year long field experience held in conjunction with EDT 211and EDT 212. Only students who have been accepted to the Early Childhood Program are eligible. During registration, students should sign up for a weekly time slot at the Bombeck Family Learning Center. Current medical forms with a negative TB test, background check, and references are required. Forms are available at the Bombeck Family Learning Center website. Corequisite(s): EDT 211.

## EDT 212. Erly Child Thry\&Prac. 3 Hours

EARLY CHILDHOOD THEORY AND PRACTICE - This course is an introduction to the theory base that drives developmentally appropriate practice for working with young children birth through age eight. It extends knowledge of how children develop and focuses on theories of Piaget, Kohlberg, Skinner, Pavlov, Erikson, Rogers, and Vygotsky. Students will learn to write lesson plans using a Praxis based lesson plan format. Field experience required at the Bombeck Family Learning Center. Prerequisite(s): EDT 110. Corequisite(s): EDT 212L.

## EDT 212L. Erly Cdhd Thy\&Prc Lb. 0 Hours

EARLY CHILDHOOD THEORY AND PRACTICE LABORATORY - This practicum course is a year long field experience held in conjunction with EDT 211 and EDT 212. Only students who have been accepted to the Early Childhood Program are eligible. During registration, students should sign-up for a weekly time slot at the Bombeck Family Learning Center. Current medical forms with a negative TB test, background check, and references are required. Forms are available at the Bombeck Family Learning Center website. Corequisite(s): EDT 212.

## EDT 222. Devlpmnt-MC \& AYA. 3 Hours

DEVELOPMENT IN MC AND AYA - This course is the study of the physical, social, emotional, intellectual and moral characteristics of the developmental period of early adolescence to young adulthood, within the context of human growth and development. The course focuses on changes in the family setting, social and community contexts, threats to health and safety, and typical risk behaviors. Field experience required. Prerequisite(s): EDT 110. Corequisite(s): EDT 222L.

## EDT 222L. DvpImt MC \& AYA lab. 1-2 Hours

DEVELOPMENT IN MC AND AYA LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to young adolescent and young adult development in school settings. Corequisite(s): EDT 222.

## EDT 303. Schl,Self\&Society. 3 Hours

SCHOOL, SELF, AND SOCIETY - This course is a study of the relationships among institutional reform, personality development, and social change in rural, urban, and suburban schools to examine the influence of the cultures of communities on their schools. The responses of local schools to national policies will also be included in the course.

## EDT 305. Phil\&Hist of Amer Ed. 3 Hours

PHILOSOPHY AND HISTORY OF AMERICAN EDUCATION -
This course is the study of American philosophy of education in a historical framework. This course emphasizes the political analyses of educational issues in their historical context. Thematic issues from the Catholic/Marianist perspective are included among the topics studied. Prerequisite(s): EDT 110; PHL 103.

## EDT 306. Hist Cath K12 Sch US. 3 Hours

HISTORY OF CATHOLIC K-12 SCHOOLS IN THE UNITED STATES - This course examines the Catholic K- 12 educational experience in the United States with a particular emphasis on the impact that Catholic schools have had on the creation of Catholic culture in America and on American culture in general. Particular emphasis is placed upon those historical antecedents that directly or indirectly affect Catholic schools today.

## EDT 312. Infant/Toddler Pract. 2 Hours

INFANT AND TODDLER PRACTICIM SEMINAR - This guided practicum and seminar will provide an opportunity for candidates to develop and apply their knowledge of typical and atypical development from conception to age 3 as they observe young children in both structured and naturalistic settings. Developmental milestones as well as related risk factors will be emphasized.

## EDT 313. Dvmt App Prac Prsc. 3 Hours

DEVELOPMENTALLY APPROPRIATE PRACTICE FOR PRESCHOOL

- This course will expand the knowledge of how young children, ages three through five, learn and develop. How to provide opportunities that will support this age group's physical, social, emotional, language, cognitive and aesthetic development will be explored. Extensive focus on the content areas of art, music, science, social studies and math as well as guiding behavior and family culture will occur. Field experience in an urban preschool or preschool special education setting required. Prerequisite(s): EDT 110, 212. Corequisite(s): EDT 313L, 340, 340L, 453.


## EDT 313L. Dvmt App Prc Prsc Lb. 1 Hour

 DEVELOPMENTALLY APPROPRIATE PRACTICE FOR PRESCHOOL LABORATORY - This field experience provides students with an opportunity to work with diverse populations. Placements are made in preschool programs that serve children from low income families, minority children who are at risk, or children with identified special needs. Corequisite(s): EDT 313.
## EDT 314. Coll Asmnt \& Team Mdls. 3 Hours

COLLABORATIVE ASSESSMENT AND TEAM MODELS - This course provides an in depth study of transdisciplinary teaming and collaborative assessment models in the field of early childhood special education. Included will be the transdisciplinary and collaborative nature of assessment in the diagnosis, screening, and instruction of young children (birth to age eight) who are typically and atypically developing. Emphasis will be given to the role of the family in the assessment process. Systematic observation using a play-based approach will be emphasized. Prerequisite(s): EDT 110, EDT 212.

## EDT 315. Hlth\&Med Early Cldhd. 2 Hours

HEALTH AND MEDICAL ISSUES FOR EARLY CHILDHOOD - Study of the health and medical needs associated with young children with disabilities. Students engage in collaboration between educational and medical professionals in an effort to integrate services for young children. Prerequisite(s): EDT 110, EDT 212.

## EDT 317. Intg Arts ECE Curric. 2 Hours

INTEGRATING THE ARTS IN EARLY CHILDHOOD CURRICULUM - This course will provide opportunities for early childhood majors to integrate the arts throughout the early childhood curriculum in meaningful ways. Music, dance, drama and visual arts will be used to represent what young children know and are able to do as well as provide an opportunity to recognize and appreciate cultural difference in artistic expression. Candidates will create aesthetically pleasing newsletters and websites to communicate with families and to market their program.

## EDT 318. Urban Tchr Academy. 0-1 Hours

URBAN TEACHER ACADEMY-JUNIOR SEMINAR - This course is designed to deepen understanding of critical issues facing urban educators. Students will examine how the culture of poverty affects students, families, and schools. Instructional and management strategies that encourage the learning and development of efficacy, risk-taking, socio-cultural awareness, contextual interpersonal skills, and selfunderstanding are developed through integrated readings, discussions, field experience, and presentations. Inherent in this deepening of understanding is the development of reflective thinking and writing and problem solving strategies.

## EDT 321. CIrm Env Mid Chdhd. 3 Hours

CLASSROOM ENVIRONMENT FOR MIDDLE CHILDHOOD - This course is the study of the middle childhood student within the classroom environment. Theories of learning and practical applications, motivation, classroom management and discipline, lesson and unit planning, teaching methodologies and assessment are examined and practiced. Field experience required. Prerequisite(s): EDT 110, EDT 222. Corequisite(s): EDT 321L.

## EDT 321L. CIsrm Envmnt MC Lab. 1 Hour CLASSROOM ENVIRONMENT FOR MIDDLE CHILDHOOD

 LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in regards to learning theories and classroom management in middle level school settings. Corequisite(s): EDT 321.
## EDT 331L. Religion Methods Lab. 0-1 Hours

RELIGION METHODS LAB - Religion methods laboratory.

## EDT 338. Teaching \& Learning. 3 Hours

TEACHING AND LEARNING - This course is a study of the empirical principles of learning such as reinforcement, discovery, motivation and transfer theories. Interpretations for generic teaching behaviors especially in diagnosis, prescription and assessment are presented. Field experience required. Prerequisite(s): EDT 207 or EDT 222. Corequisite(s): EDT 338L.

## EDT 338L. Teach \& Learn. 1 Hour

TEACHING AND LEARNING LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in regard to learning theories in school settings. Corequisite(s): EDT 338.

## EDT 340. Ed Dvse St Pop -Incl. 3 Hours

EDUCATING DIVERSE STUDENT POPULATIONS IN INCLUSIVE SETTINGS - This course is the study of the characteristics, legal aspects, and educational needs of students with challenges in learning. The role of the general educator in making curricular modifications and accommodations, adapting instruction and collaborating with other educators to facilitate learning in the general classroom for these students is examined. Field experience required. Prerequisite(s): EDT 110. Corequisite(s): EDT 340L.

## EDT 340L. Ed Dvs st Pop Inc Lb. 0 Hours

EDUCATING DIVERSE STUDENT POPULATIONS IN INCLUSIVE SETTINGS LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to adapting learning experiences for diverse learners in school settings. Corequisite(s): EDT 340.

## EDT 341. Lng Dvlp\&Emergnt Lit. 3 Hours

LANGUAGE DEVELOPMENT AND EMMERGENT LITERACY - This course is the study of oral language and literacy development in children, with implications for all learners, including children with special needs. Prerequisite(s): EDT 110.

## EDT 342. Behavior Management. 3 Hours

BEHAVIOR MANAGEMENT - This course examines the principles and methods of observing, recording, measuring and managing human behavior with emphasis on students with disabilities. Prerequisite(s): EDT 340 (may be taken as a corequisite).

## EDT 343. Lrn w/MId-Mod Ed Nds. 3 Hours

INTRODUCTION TO EDUCATION OF LEARNERS WITH MILD/ MODERATE LEARNING NEEDS - This course is a study of the role and function of the intervention specialist. This course presents issues of definition, identification and placement procedures. The candidate will acquire knowledge of major researchers and historians, variations in belief, traditions and values across cultures, and current practices in the field. Field experience required. Prerequisite(s): ECE: EDT 340. Corequisite(s): EDT 343L.

## EDT 343L. Ed Lrn Md/Mod Prb Lb. 0 Hours

INTRODUCTION TO EDUCATION OF LEARNERS WITH MILD/ MODERATE LEARNING NEEDS LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to the individual learning needs of students in school settings. Corequisite(s): EDT 343.

## EDT 344. Coll w/Prnt/Coll/Agn. 3 Hours

COLLABORATION WITH FAMILIES, PROFESSIONALS AND AGENCIES - This course examines theories and techniques to assist teachers in working with colleagues, families and agency personnel to provide an appropriate educational program, improve home-school relationships and develop family-professional partnerships. Historical and legal perspectives of parental influence on special education service are examined. Prerequisite(s): IS: EDT 343; ECE: EDT 340.

## EDT 350. Find Literacy Thr Lit. 3 Hours

FOUNDATIONS OF LITERACY THROUGH LITERATURE - This course serves as an introductory course to the reading/language arts (listening, speaking, reading, writing, viewing, visual representation) and the role literature plays in these processes. It is a foundation course in reading and is intended to align with the requirements of Ohio Reading Core licensure standards for the Early Childhood, Middle Childhood, and Intervention Specialist programs. Topics examined include the foundations of literacy, research, theories, and related models of reading, various children's and young adult literature, the integration of technology in literacy, an overview of the importance of on-going assessment in teaching reading/language arts, and an awareness of cultural, linguistic, and ethnic diversity in individual learners. Prerequisite(s): EDT 110.

## EDT 400. Independent Study. 1-12 Hours

INDEPENDENT STUDY - This course is an in-depth study of a selected educational topic. The candidate develops an individual learning plan that includes objectives, schedule of readings and assignments, products and methods of assessment. Prerequisite(s): Permission of department chairperson.

## EDT 404. Curr Innvtns in Ed. 3 Hours

CURRENT INNOVATIONS IN EDUCATION - This course is the study of current innovations in education. The course focuses on the examination and critical analysis of recent trends in curriculum and instructional and assessment strategies in P-12 schools.

## EDT 406. Spec Top in Teaching. 1-3 Hours

SPECIAL TOPICS IN TEACHING - This course is the study of specialized areas of education not typically included in the professional education sequence. Topics are announced.

## EDT 409. Math 4\&5 Grades. 3 Hours

MATHEMATICS FOR 4TH AND 5TH GRADES - Planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching mathematics to students in grades 4 and 5 with varied needs and abilities using a tier method. Topics include: Ohio Academic Content Standards, applications and instructional techniques that address proficiency testing, resources, technologies, manipulatives, interdisciplinary connections, grouping techniques, current research, and 21st Century Skills.

## EDT 410. Science 4\&5 Grades. 3 Hours

SCIENCE FOR 4TH AND 5TH GRADES - Planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching science to students in grades 4 and 5 with varied needs and abilities using a tier method. Topics include: Ohio Academic Content Standards, applications and instructional techniques that address proficiency testing, resources, technologies, manipulatives, interdisciplinary connections, grouping techniques, current research, and 21st Century Skills.

## EDT 411. Soc Stud 4\&5 Grades. 3 Hours

SOCIAL STUDIES FOR 4TH AND 5TH GRADES - Course designed to address social studies content including social aspects of learning, and pedagogy specific to 4 th $/ 5$ th grades.

## EDT 412. Dev App Prc Mth-ECE. 3 Hours

DEVELOPMENTALLY APPROPRIATE PRACTICE IN MATH FOR ECE - This course will extend the candidate's knowledge of how children, six through eight years, develop and learn in order to provide opportunities that support the physical, social, emotional, language, cognitive, and aesthetic development of all young children. Students will learn to use knowledge of how young children, ages six through eight, differ in their development and approaches to learning mathematics in order to provide individually appropriate opportunities for learning the subject. The course will emphasize teaching in the content of mathematics and will focus on the Ohio Mathematics academic content standards and the NCTM standards. Field experience is integrated with the primary block. This course is part of the first semester senior year internship and culminates in the second semester of student teaching. Prerequisite(s): EDT 110, EDT 212, EDT 313; successful completion of field experience. Corequisite(s): EDT 413, EDT 414, EDT 415, EDT 415L, EDT 454.

## EDT 413. Dv App Prc SocSt-ECE. 2 Hours

DEVELOPMENTALLY APPROPRIATE PRACTICE IN SOCIAL STUDIES
FOR ECE - Students will learn to use knowledge of how young children ages six through eight differ in their development and approaches to learning Social Studies in order to provide individually appropriate opportunities for learning the subject. The course will emphasize teaching in the content of Social Studies and will focus on the Ohio Social Studies academic content standards and the NCSS standards. Field experience is integrated with the primary block. This course is part of the first semester senior year internship and culminates in second semester student teaching. Prerequisite(s): EDT 110, EDT 212, EDT 313; successful completion of field experience. Corequisite(s): EDT 412, EDT 414, EDT 415, EDT 415L, EDT 454.

## EDT 414. Dev App Prac Sci-ECE. 3 Hours

DEVELPMENTALLY APPROPRIATE PRACTICE IN SCIENCE FOR ECE - This course will explore resources and techniques available to provide all early childhood students with a holistic, interdisciplinary understanding of science. Candidates will design lessons, activities, and assessments which link the national standards, state model, and international goals to contemporary events and children's daily lives. Developmentally appropriate practices, science processes, inquiry, problem-solving, and safety issues will be addressed. Prerequisite(s): EDT 110, EDT 212, EDT 313; GEO 204; SCI 190, SCI 190L, SCI 230, SCI 230L; successful completion of field experience. Corequisite(s): EDT 412, EDT 413, EDT 415, EDT 415L, EDT 454.

## EDT 415. Wk w/Lrnr Mld/Mod Ed. 3 Hours

WORKING WITH YOUNG LEARNERS WITH MILD TO MODERATE DISABILITIES - This course is the study of the role and function of the early childhood educator in working with learners with mild to moderate disabilities. The course presents issues of definition, identification and placement procedures. The candidate will acquire knowledge of major researchers and historians, variations in belief, traditions and values across cultures, and current practices in the field. Field experience required as part of the K-3 block. Prerequisite(s): EDT 212, EDT 340; successful completion of field experience. Corequisite(s): EDT 412, EDT 413, EDT 414, EDT 415L, EDT 454.

## EDT 415L. ECE K-3 FId Intrnshp. 1-2 Hours

ECE PRIMARY (K-3) FIELD INTERNSHIP - This ECE field experience is the first semester of the senior level internship, which provides the candidate the opportunity for practice and reflection in K-3 settings. Corequisite(s): EDT 412, EDT 413, EDT 414, EDT 415, EDT 454.

## EDT 418. Urban Tchr Academy. 0-1 Hours

URBAN TEACHER ACADEMY-SENIOR SEMINAR - This course is designed to deepen understanding of critical issues facing urban educators. Students will examine how the culture of poverty affects students, families, and schools. Instructional and management strategies that encourage the learning and development of efficacy, risk-taking, socio-cultural awareness, contextual interpersonal skills, and selfunderstanding are developed through integrated readings, discussions, field experience, and presentations. Inherent in this deepening of understanding is the development of reflective thinking and writing and problem solving strategies.

## EDT 419. Kndgtn-Prm Curr\&Inst. 3 Hours

KINDERGARTEN-PRIMARY CURRICULUM AND INSTRUCTION This course focuses on planning, assessment, instructional methods, materials, and evaluation techniques for teaching children in kindergarten and primary grades. Integrated curriculum and the Ohio Early Learning/ Academic Content Standards in math and science will be emphasized. Prerequisite(s): EDT 110, EDT 211, EDT 212. Corequisite(s): EDT 419L.

## EDT 419L. Kdgtn-Prm Cr\&Inst Lb. 0 Hours

KINDERGARTEN-PRIMARY CURRICULUM AND INSTRUCTION
LABORATORY - This 20 contact hour lab in a kindergarten or primary grades classroom supports the material covered in EDT 419. Corequisite(s): EDT 419.

## EDT 423. MC Capstone Seminar. 2 Hours

MC CAPSTONE SEMINAR - Capstone seminar.

## EDT 425. Md Schl Prin\&Prac. 3 Hours

THE MIDDLE SCHOOL PRINCIPLES AND PRACTICES - This course is primarily a study of organization (school structure), philosophy and curriculum of middle level education (9-14 year olds), grades 4-9. It is designed to present the theoretical knowledge base about middle level (school) education. Issues and concerns, current trends and the essential elements relating to middle level education will be discussed throughout the semester of study. A variety of inquiry methods will be modeled that encourage critical thinking skills. Prerequisite(s): EDT 222, EDT 321.

## EDT 425L. Mid Chld Prin\&Prac Lb. 0 Hours

MIDDLE CHILDHOOD PRINCIPLES AND PRACTICES LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in regards to the study of organization (school structure), philosophy and curriculum of middle level education ( $9-14$ year olds), grades 4-9. It is designed to support the course study of the theoretical knowledge base about middle level (school) education. Issues and concerns, current trends and the essential elements relating to middle level education will be observed and studied throughout the semester. Corequisite(s): EDT 425.

## EDT 426. Rdg/Lng Arts-MC. 3 Hours

READING/LANGUAGE ARTS FOR MIDDLE CHILDHOOD - This course focuses on the planning, diagnosis, instructional methods, materials, assessment and evaluation techniques for teaching reading/language arts to students in the middle schools with varied needs and abilities. The topics emphasized in this course include: an understanding of Ohio's academic content standards for grades 4-9, applications and instructional techniques that address the Ohio achievement tests, various resources, technologies, interdisciplinary connections, various grouping techniques and current research. Prerequisite(s): EDT 321, EDT 425. Corequisite(s): EDT 458, EDT 458L; two content methods courses.

## EDT 427. Math-Middle Childhd. 3 Hours

MATH FOR MIDDLE CHILDHOOD - This course focuses on the planning, diagnosis, instructional methods, materials, assessment and evaluation techniques for teaching mathematics to students in the middle schools with varied needs and abilities. The topics emphasized in this course include: an understanding of Ohio's academic content standards for grades 4-9, applications and instructional techniques that address the Ohio achievement tests, various resources, technologies, manipulatives, and other visuals, interdisciplinary connections, various grouping techniques and current research. Prerequisite(s): EDT 321, EDT 425. Corequisite(s): EDT 458, EDT 458L; two content methods courses.

## EDT 428. Sci-Middle Childhd. 3 Hours

SCIENCE FOR MIDDLE CHILDHOOD - This course focuses on the planning, diagnosis, instructional methods, materials, assessment and evaluation techniques for teaching science to students in the middle schools with varied needs and abilities. The topics emphasized in this course include: an understanding of Ohio's academic content standards for grades 4-9, applications and instructional techniques that address the Ohio achievement tests, various resources, technologies, experiments, and other hands-on experiences, interdisciplinary connections, various grouping techniques, and current research. Prerequisite(s): EDT 321, EDT 425. Corequisite(s): EDT 458, EDT 458L; two content methods courses.

## EDT 429. Soc Std-Middle Chid. 3 Hours

SOCIAL STUDIES FOR MIDDLE CHILDHOOD - This course focuses on the planning, diagnosis, instructional methods, materials, assessment and evaluation techniques for teaching social studies to students in the middle schools with varied needs and abilities. The topics emphasized in this course include: an understanding of Ohio's academic content standards for grades 4-9, applications and instructional techniques that address the Ohio achievement tests, various resources, technologies and active hands-on experiences, other visuals, interdisciplinary connections, various grouping techniques and current research. Prerequisite(s): EDT 321, EDT 425. Corequisite(s): EDT 458, EDT 458L; two content methods courses.

## EDT 431. Lang Arts Mthds-AYA. 4 Hours

INTEGRATED LANGUAGE ARTS METHODS FOR ADOLESCENT TO YOUNG ADULT - This course focuses on planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching all levels of integrated language arts to students in grades $7-12$ with varied needs and abilities. Topics include: understanding Ohio's academic content standards for grades 7-12, applications and instructional techniques that address the Ohio achievement and competency tests, various resources, technologies, interdisciplinary connections, various grouping techniques, best practices, and current research. Field experience required. Prerequisite(s): EDT 222, EDT 222L, EDT 338, EDT 338L. Corequisite(s): EDT 305, EDT 431, EDT 459.

## EDT 431L. Int Lng Md AYA Fd In. 1-2 Hours

INTEGRATED LANGUAGE ARTS METHODS AYA (7-12) FIELD INTERNSHIP - This AYA field experience is the first semester of the senior level internship, providing the candidate with practice and reflection in the integrated language arts, AYA setting. Corequisite(s): EDT 305, EDT 431, EDT 459.

## EDT 432. Mth Mthds-AYA. 4 Hours

MATH METHODS FOR ADOLESCENT TO YOUNG ADULT - This course focuses on planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching all levels of mathematics to students in grades $7-12$ with varied needs and abilities. Topics include: understanding Ohio's academic content standards for grades 7-12, applications and instructional techniques that address the Ohio achievement and competency tests, various resources, technologies, manipulatives, and other visuals, interdisciplinary connections, various grouping techniques, best practices, and current research. Field experience required. Prerequisite(s): EDT 222, EDT 222L, EDT 338, EDT 338L. Corequisite(s): EDT 305, EDT 432L, EDT 459.

## EDT 432L. Math Md AYA Fid Int. 1-2 Hours

MATH METHODS AYA (7-12) FIELD INTERNSHIP - This AYA field experience is the first semester of the senior level internship, providing the candidate with practice and reflection in a math, AYA setting. Corequisite(s): EDT 305, EDT 432, EDT 459.

## EDT 433. Foreign Lng-AYA. 4 Hours

FOREIGN LANGUAGE METHODS FOR ADOLESCENT TO YOUNG ADULT - This course focuses on planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching all levels of foreign language to students in grades $7-12$ with varied needs and abilities. Topics include: understanding Ohio's academic content standards for grades 7-12, applications and instructional techniques that address the Ohio achievement and competency tests, various resources, technologies, hands-on activities and other visuals, interdisciplinary connections, various grouping techniques, best practices, and current research. Field experience required. Prerequisite(s): EDT 207, EDT 207L, EDT 338, EDT 338L. Corequisite(s): EDT 305, EDT 433L, EDT 459.

## EDT 433L. Frn Lng Mth Fid Intp. 1-2 Hours

FOREIGN LANGUAGE METHODS FOR AYA (7-12) FIELD
INTERNSHIP - This AYA field experience is the first semester of the senior level internship, which provides the candidate with practice and reflection in a foreign language, AYA setting. Corequisite(s): EDT 305, EDT 433, EDT 459.

## EDT 434. Sciene Mthds-AYA. 4 Hours

SCIENCE METHODS FOR ADOLESCENT TO YOUNG ADULT - This course focuses on planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching all levels of science to students in grades 7-12 with varied needs and abilities. Topics include: understanding Ohio's academic content standards for grades 7-12, applications and instructional techniques that address the Ohio achievement and competency tests, various resources, technologies, hands-on activities, interdisciplinary connections, various grouping techniques, best practices, and current research. Field experience required. Prerequisite(s): EDT 222, EDT 222L, EDT 338, EDT 338L. Corequisite(s): EDT 305, EDT 434L, EDT 459.

## EDT 434L. Sci Mth AYA Fld Intr. 1-2 Hours

SCIENCE METHODS FOR AYA (7-12) FIELD INTERNSHIP - This AYA field experience is the first semester of the senior level internship, which provides the candidate with practice and reflection in a science, AYA setting. Corequisite(s): EDT 305, EDT 459.

## EDT 435. Soc Std Mthds-AYA. 4 Hours

INTEGRATED SOCIAL STUDIES METHODS FOR ADOLESCENT TO YOUNG ADULT - This course focuses on planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques for teaching all levels of integrated social studies to students in grades $7-12$ with varied needs and abilities. Topics include: understanding Ohio's academic content standards for grades 7-12, applications and instructional techniques that address the Ohio achievement and competency tests, various resources, technologies, hands-on activities, interdisciplinary connections, various grouping techniques, best practices, and current research. Field experience required. Prerequisite(s): EDT 222, EDT 222L, EDT 338, EDT 338L. Corequisite(s): EDT 305, EDT 435L, EDT 459.

## EDT 435L. Int Sc St SYA Fd Inst. 1-2 Hours

INTEGRATED SOCIAL STUDIES METHODS FOR AYA (7-12) FIELD INTERNSHIP - This AYA field experience is the first semester of the senior level internship, which provides the candidate with practice and reflection in a social studies, AYA setting. Corequisite(s): EDT 305, EDT 435, EDT 459.

## EDT 436. AYA Capstone Course. 3 Hours

AYA CAPSTONE COURSE - This course will serve as a culminating course to the AYA Senior Block experience. It will provide content for topics that former students deemed important as well as educational research techniques. The course was designed by AYA faculty to meet the missing components that our work with NCATE spa requirements demands from our individual content areas. Specifically, the course will cover action research, educational research, content area research, data collection analysis and management, real classroom issues, and the integration of all these elements to measure and improve student achievement. Corequisite(s): EDT 475.

## EDT 441. Cnt Stnd Stdt Sp Nds. 3 Hours

ADAPTING CONTENT STANDARDS FOR STUDENTS WITH SPECIAL NEEDS - This course focuses on the planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques used by intervention specialists in inclusive and more restrictive settings to address K-12 content area standards. The topics emphasized include an understanding of how to align Ohio's academic content standards with applications and instructional techniques that ensure the achievement of special education students in the general education curriculum. The course examines the role of the intervention specialist in collaboration with general educators in making appropriate accommodations and modifications.

## EDT 441L. Cnt Stnrd Sp Nds Lab. 0 Hours

ADAPTING CONTENT STANDARDS FOR STUDENTS WITH SPECIAL NEEDS LABORATORY - This lab focuses on the planning, diagnosis, instructional methods, materials, assessment, and evaluation techniques used by intervention specialists in inclusive and more restrictive settings to address K-12 content area standards. I.S. students will work with licensed educators to develop an understanding of how to align Ohio's academic content standards with applications and instructional techniques that ensure the achievement of special education students in the general education curriculum. The lab emphasizes the role of the intervention specialist in collaboration with general educators in making appropriate accommodations and modifications.

## EDT 442. Assmt:MId/Moderate. 3 Hours

ASSESSMENT: MILD/MODERATE - This course is the study of the multidisciplinary use of assessment instruments and techniques in the diagnosis, planning and evaluation of the special needs learner and the development of individual education programs. Prerequisite(s): EDT 321, EDT 340, EDT 343, EDT 425. Corequisite(s): EDT 442L, EDT 443, EDT 444.

## EDT 442L. IS MId/Mod Fld Intp. 1-2 Hours

INTERVENTION SPECIALIST: MILD/MODERATE FIELD INTERNSHIP - This Intervention Specialist: Mild/Moderate field experience is the first semester of the senior level internship, providing the candidate with practice and reflection in mild/moderate intervention specialist settings. Corequisite(s): EDT 442, EDT 443, EDT 444.

## EDT 443. Curriculum M/M. 2 Hours

CURRICULUM: MILD/MODERATE - This course is the study of curriculum development considering the motor, cognitive, academic, social, language, affective, functional, life skills, and individual programming of students with mild/moderate disabilities. Field experience required. Prerequisite(s): EDT 321, EDT 340, EDT 343, EDT 425. Corequisite(s): EDT 344, EDT 442, EDT 442L, EDT 444.

## EDT 444. Instr Strat:MId/Mod. 3 Hours

INSTRUCTIONAL STRATEGIES: MILD/MODERATE - This course examines the strategies, materials, and evaluation techniques for teaching students with mild/moderate learning problems. Field experience required. Prerequisite(s): EDT 321, EDT 340, EDT 343, EDT 425. Corequisite(s): EDT 442, EDT 442L, EDT 443.

## EDT 445. Appl-Cmputr\&Technlgy. 2 Hours

APPLICATION OF COMPUTERS/TECHNOLOGY IN SPECIAL
EDUCATION - This course is the study of basic computer applications in special education, including instructional programs, software evaluation, telecommunications, multimedia and hypermedia, assistive technology, augmentative devices, resources, and legal/ethical issues. Prerequisite(s): EDT 341, EDT 343.

## EDT 446. Career Ed/Special Ed. 2 Hours

CAREER EDUCATION / SPECIAL EDUCATION - Theory and techniques of job classification, assessment, selection, placement, and activities related to work from pre-school to adult. Prerequisite(s): EDT 343. Corequisite(s): EDT 442, EDT 442L, EDT 443, EDT 444.

## EDT 447. Instructnl Strat:Mod. 2 Hours

INSTRUCTIONAL STRATEGIES: MODERATE - This course examines strategies for teaching and managing behaviors of students with moderate disabilities. Prerequisite(s): EDT 321, EDT 340, EDT 343, EDT 425 Corequisite(s): EDT 442, EDT 442L, EDT 443, EDT 444.

## EDT 450. Phonics,Spell,Voc. 3 Hours

PHONICS, SPELLING, AND VOCABULARY - This course provides the background knowledge necessary for effectively teaching and assessing the role of phonics in the reading process. Emphasis is on developing phonemic awareness, phonics, spelling, and word recognition/word meaning embedded in the context of a total reading/language arts program focused on meaning construction. Prerequisite(s): EDT 350. Corequisite(s): EDT 453 or EDT 458.

## EDT 452. Readng-Contnt Areas. 3 Hours

CRITICAL READING IN THE CONTENT AREAS - In this course, Middle Childhood candidates examine the strategies and techniques in the development of prior knowledge skills, study skills, vocabulary, technology, and assessment as they relate to critical reading abilities in a variety of curriculum areas. Prerequisite(s): EDT 350.

## EDT 453. Intro-Ltrcy-Er Chid. 3 Hours

INTRODUCTION TO LITERACY FOR EARLY CHILDHOOD - Study of appropriate instruction and assessment supporting the literacy development of children PK - grade 3. Major emphasis is on developing the knowledge base related to a comprehensive framework for literacy instruction, including reading, writing, and content area literacy, with a focus on instruction supporting emerging and early readers and writers. Prerequisite(s): EDT 350.

## EDT 454. Mth Lit Instr Asmt EC. 3 Hours

METHODS OF LITERACY INSTRUCTION AND ASSESSMENT FOR EARLY CHILDHOOD - The continued study of appropriate instruction and assessment supporting the literacy development of children PK grade 3 , with a focus on instruction supporting developing and transitional readers and writers. Major emphasis is on the classroom application of the principles of comprehensive literacy instruction and assessment, including the writing process and comprehension strategies across the content areas. Prerequisite(s): EDT 350, EDT 453.

## EDT 458. Reading Methods MCE. 3 Hours

READING METHODS FOR MIDDLE CHILDHOOD - An integrated language arts course focusing on the knowledge base underpinning the teaching of reading and related language arts processes within the language arts and across the curriculum to students of various ages, needs, and abilities. Topics include planning, instructional methods, materials, assessment, and evaluation techniques. Field experience required. Prerequisite(s): EDT 350. Corequisite(s): EDT 458L; two content methods courses.

## EDT 458L. MCE MI FId Intnshp. 1-2 Hours

MCE MIDDLE LEVEL (4-9) FIELD INTERNSHIP - This MCE field experience is the first semester of the senior level internship, which provides the candidate with practice and reflection in middle level school settings. Corequisite(s): EDT 458; two content methods courses.

## EDT 459. Crt Rdg Wrtg Cnt Ar. 3 Hours

CRITICAL READING AND WRITING IN THE CONTENT AREA - This class focuses on the teaching of reading and writing in the AYA and multi-age content area that includes instruction in organizing instruction, use of protocols for oral language development, strategies for word skill development, strategies for reading comprehension, and assessment strategies for instructional purposes for the multi-age and adolescence to young adult licenses. Prerequisite(s): EDT 110, EDT 222, EDT 338, EDT 338L. Corequisite(s): EDT 305; two content methods courses.

## EDT 460E. ErlyChIdPrgmPersnIMng. 3 Hours

EARLY CHILDHOOD PROGRAM AND PERSONNEL MANAGEMENT - This course is the first in the Early Childhood Leadership program. Students will explore program and personnel management and human relations in early care and education. Corequisite(s): EDT 460EL.

## EDT 460EL. ErlyDhdPrgmPrsnIMngLb. 0-1 Hours

EARLY CHILDHOOD PROGRAM AND PERSONNEL MANAGEMENT LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to program and personnel management and human relations in early care and education. Corequisite(s): EDT 460E.

## EDT 461E. SptQltyCIminsElyCrEd. 3 Hours

SUPPORTING QUALITY CURRICULUM AND INSTRUCTION IN EARLY CARE AND EDUCATION - This course provides opportunities for students to use research to identify and support quality early childhood curriculum, instruction, and assessment. Corequisite(s): EDT 461EL.

## EDT 461EL. SptQltyCIminsElyCrEd. 0-1 Hours

SUPPORTING QUALITY CURRICULUM AND INSTRUCTION IN EARLY CARE AND EDUCATION LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to using research to identify and support quality early childhood curriculum, instruction, and assessment. Corequisite(s): EDT 461E.

## EDT 462E. RgnsLcsLwErlyCreEd. 3 Hours

REGULATIONS, LICENSING, AND THE LAW IN EARLY CARE AND EDUCATION - This course addresses ethics in early care and education as well as issues related to health, safety, and nutrition regulations including first aid, communicable disease, safety policies, and practices. Reporting and recognizing child abuse is addressed. Students will learn to respond to regulations, licensing, and laws that impact programs for young children. Corequisite(s): EDT 462EL.

## EDT 462EL. RgnsLensLwErlyCrEdLb. 0-1 Hours

REGULATIONS, LICENSING, AND THE LAW IN EARLY CARE AND EDUCATION LABORATORY - This lab consists of planned field experiences providing candidates the opportunity for field reflections in relation to regulations, licensing and laws that impact programs for young children. Corequisite(s): EDT 462E.

## EDT 463E. MngFncsMktErlyCareEd. 3 Hours

MANAGING FINANCES AND MARKETING IN EARLY CARE AND EDUCATION - Students will explore strategies for managing finances and developing marketing plans in the field of early care and education. Prerequisite(s): EDT 460E.

## EDT 463EL. MngFncsMktErlyCrEdLb. 0-1 Hours

MANAGING FINANCES AND MARKETING IN EARLY CARE AND EDUCATION LABORATORY - This lab supports students in EDT 463E as they explore managing finances and developing marketing plans in the field of early care and education.

## EDT 464E. AdvcyErlyCreEd. 3 Hours

ADVOCACY IN EARLY CARE AND EDUCATION - This courses explores current political, educational, and societal issues related to early care and education and examines how teachers develop leadership skills to become better advocates for children, families, and the profession. Prerequisite(s): EDT 460E.

## EDT 465E. ItrnPrctmErlyChIdAdm. 6 Hours

INTERNSHIP AND PRACTICUM IN EARLY CHILDHOOD
ADMINISTRATION - This internship serves as the culminating
experience where students demonstrate the knowledge, skills, and disposition addressed in the four proceeding early childhood leadership courses. Students complete a six week full time internship working with/ as a early childhood director or administrator. Prerequisite(s): EDT 460E.

## EDT 471. Stdt Tch:Lang PK-12. 12 Hours

STUDENT TEACHING-FOREIGN LANGUAGES K-12 - Full-time supervised and evaluated teaching of foreign languages in P -12 classes. The candidate will demonstrate the knowledge, skills, and dispositions required of a beginning foreign language teacher. Attendance at weekly seminars is required. Prerequisite(s): EDT 433; formal admission to student teaching a full semester in advance; completion of $80 \%$ of the content area courses.

## EDT 472. PKSE Internship. 5 Hours

INTERNSHIP IN PRE-KINDERGARTEN SPECIAL NEEDS - Supervised and evaluated teaching in a preschool special education setting. Candidates are to demonstrate the knowledge, skills, attitudes, and dispositions needed to comply with the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood of the Council of Exceptional Children (DEC) guidelines for appropriate practice that are specific to pre-kindergarten age children with special needs. Field experience required. Prerequisite(s): EDT 314, EDT 315, EDT 415, EDT 415L; Students must register for the course and submit a student teaching/internship application packet to the Department of Teacher Education by the deadline in January prior to the fall methods block.

## EDT 473. Stdnt Tchng-Prim. 3-12 Hours

STUDENT TEACHING-PRIMARY GRADES - The student teaching experience is a full-time, evaluated experience in a primary setting. The candidate will demonstrate the knowledge, skills and dispositions required of a beginning primary grade teacher. Prerequisite(s): Formal admission to student teaching a full semester in advance.

## EDT 474. Std Tch Mid Chldhd. 12 Hours

STUDENT TEACHING-MIDDLE CHILDHOOD - Full-time supervised and evaluated teaching in grades 4-9 in at least one of the two candidate's concentration subjects. The candidate will demonstrate the knowledge, skills and dispositions required of a beginning middle-level teacher. Attendance at weekly seminars is required. Prerequisite(s): Two of following: EDT 426, EDT 427, EDT 428, EDT 429; formal admission to student teaching a full semester in advance.

## EDT 475. Student Teachng AYA. 12 Hours

STUDENT TEACHING-ADOLESCENT TO YOUNG ADULT - Fulltime supervised and evaluated teaching in the content area in a junior or senior high school classroom. The candidate will demonstrate the knowledge, skills, and dispositions required of a beginning secondary teacher. Attendance at weekly seminars is required. Prerequisite(s): Formal admission to student teaching a full semester in advance; completion of $80 \%$ of the content area courses.

## EDT 476. Stdnt Tchng-Mild/Mod. 12 Hours

STUDENT TEACHING-INTERVENTION SPECIALIST: MILD/
MODERATE - Full-time supervised and evaluated teaching with students demonstrating mild/moderate learning needs. The candidate will demonstrate the knowledge, skills and dispositions of a beginning mild/ moderate intervention specialist teacher. Attendance at seminars is required. Prerequisite(s): EDT 342, EDT 343, EDT 343L, EDT 344, EDT 442, EDT 442L, EDT 443, EDT 444, EDT 445; formal admission to student teaching a full semester in advance.

## EDT 477. Stdt Tchng-Art K-12. 12 Hours

STUDENT TEACHING-ART K-12 - Full-time supervised and evaluated teaching in art classes in schools ( $\mathrm{P}-12$ ). The candidate will demonstrate the knowledge, skills, and dispositions required of a beginning art teacher. Attendance at a weekly seminar is required. Prerequisite(s): VAE 231, VAE 383, VAE 483; formal admission to student teaching a full semester in advance and the methods courses.

## EDT 479. Stdt Tchng-Mus K-12. 12 Hours

STUDENT TEACHING-MUSIC K-12 - Full-time supervised and evaluated teaching in music classes in schools (P-12). The candidate will demonstrate the knowledge, skills and dispositions required of a beginning music teacher. Attendance at a weekly seminar is required. Prerequisite(s): MUS 331, MUS 332, MUS 335; formal admission to student teaching a full semester in advance; piano proficiency and completion of junior/senior recital.

## EDT 486. comp Stdy-Pub Educatn. 3 Hours

COMPARATIVE STUDY-PUBLIC EDUCATION - This course is designed to study the background and development of education as compared to educational systems in other countries. The organizing themes are how social, political, and cultural foundations shape schools. Comparisons across countries and cultures will provide a context to understand how educational practices are shaped by culture.

## EDT 498. Honors Thesis. 3 Hours

HONORS THESIS - This course is based on the selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to juniors in the University Honors or Berry Scholars Programs with permission of the program director and EDT chairperson. Prerequisite(s): Permission of department chairperson and program director.

## EDT 499. Honors Thesis. 3 Hours

HONORS THESIS - This course is based on the selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to seniors in the University Honors or Berry Scholars Programs with permission of the program director and EDT chairperson.

## School of Engineering

Tony E. Saliba, Ph.D., Dean, School of Engineering Wilke Distinguished Professor
Riad Alakkad, Associate Dean for Undergraduates Studies John Weber, Associate Dean for Graduate Studies
Margaret Pinnell, Assistant Dean for Recruitment and Outreach

## Our Vision

The Vision of the School of Engineering is to become a preeminent engineering school providing transformational learning experiences that prepare engineering students for leadership, service, and success in life, profession, and society. It is our goal to be recognized for outstanding engineering research that positively advances the human condition, addresses critical needs of the world, and provides economic growth to our region, our nation, and our world. Finally, we are committed to being a nurturing, inclusive environment that promotes the development of all members of the School of Engineering family to their full potential while supporting and advancing the Catholic and Marianist mission of the University of Dayton.

## Our Mission

The Mission of the School of Engineering is to educate complete professionals who have an integrated knowledge of the theory and practice of engineering together with an equally strong understanding of the arts and sciences that will prepare them for fulfilling careers of leadership, service, and life-long learning for the good of society.

## Our Purpose

The School of Engineering has as its primary purpose the education of men and women toward a profound knowledge that engineering is more than a problem-solving discipline. While our curriculum and our research do not directly address issues of faith, we nonetheless affect in many ways the character and sensibilities of our students, not just as problem solvers but as individuals who respect the world that they shape for the good of others. Accordingly, our students receive an education that is rigorously directed toward advanced knowledge in engineering, while demonstrating at every turn the important relationships and interdependencies that exist between engineering and the rest of the disciplines across the full spectrum of human knowledge. We therefore educate students to be both intellectually astute and discerning in all their work and morally responsible in the face of the demands and rewards of our ever-changing world.
As an educational unit of a private university, the School of Engineering strongly emphasizes the advising of students so that they may achieve their educational objectives within the engineering program. First-year students are advised by an advising team. At the end of the second semester, each student is assigned a faculty advisor in his/her program. Academic advising begins before the students begin their formal course work and continues as they progress toward their objectives.
The broader responsibilities of the engineering profession demand that the professional education 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 ensure that scientific discoveries and developments by engineers may result in the true advancement of the human race.

## Academic Programs

The engineering program in each of the fields of chemical (p. 321), civil (p. 327), computer (p. 333), electrical (p. 332), and mechanical engineering ( p . 351) 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, and engineering fundamentals. All of the programs permit additional specialization (as an overload) in minors in areas such as aerospace engineering ( $p$. 352 ), bioengineering (p.323), chemical processing (p.323), composite materials engineering (p. 323), computer systems (p. 334), engineering management (p. 337), engineering mechanics (p. 328), environmental engineering (p.328), materials engineering (p. 324), mechanical systems (p. 352), operations engineering (p. 337),polymer materials (p. 324), signals and systems (p.334), structures (p. 328), transportation engineering (p. 328) and water resources engineering (p. 329) in the School of Engineering and in other areas such as languages, music, and political science in other units of the University. Concentrations in the School of Engineering include aerospace engineering (p. 352), electro-optics (p. 333), energy systems-chemical (p. 322), energy systems-mechanical (p. 352) and robotics (p. 334). Although emphasis is on fundamental theories, continued attention is paid to the solution of practical problems which the student will encounter in the practice of engineering.

The programs in chemical engineering, civil engineering, computer engineering, electrical engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

The programs in electronic \& computer, industrial, global manufacturing systems, and mechanical engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

## Courses

## EGR 100. Enrichment Workshop. 0-3 Hours

ENRICHMENT WORKSHOP A - workshop structured to provide collaborative learning of engineering calculus facilitated with upper-class engineering students. Required course both semesters for first-year students.

## EGR 102. Seminar for UEG. 0 Hours

SEMINAR FOR UEG - Introduction to engineering faculty, facilities, and curriculum; survey of career opportunities in engineering; orientation to the university. This course is part of the Integrated Engineering Core for all engineering students.

## EGR 103. Engineering Innovatn. 2 Hours

 ENGINEERING INNOVATION - First year multi-disciplinary innovation projects primarily geared towards skill development in the areas of requirements analysis, creativity, conceptual design, design and problemsolving processes, prototyping, teamwork, and project communications. Application to the development of a new product or technology meeting societal needs. This course is part of the Integrated Engineering Core for all engineering students.
## EGR 198. Research \& Innvtn Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.


## EGR 200. Pro Development Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

## EGR 201. Engr Mechanics. 3 Hours

ENGINEERING MECHANICS - This course provides an introduction to mechanics as applied to engineering problems. Principles of force and moment balance, work, and energy conservation are applied to systems in static equilibrium. The similarity of balance laws applied to mechanical behavior to those used in thermodynamics and electric circuits is introduced. Students are introduced to the concepts of free-body diagrams and equivalent systems of forces, properties of areas and sections, analysis of simple structures, internal forces, stress, and material failure. Introduces a common problem-solving approach and processes to address and solve open ended problems and creative application of theory. Both analytical and computer solutions of engineering mechanics problems are emphasized. This course is part of the Integrated Engineering Core for all engineering students. Prerequisite(s): MTH 168; PHY 206.

## EGR 202. Engr Thermodynamics. 3 Hours

ENGINEERING THERMODYNAMICS - This course provides an introduction to engineering thermodynamics, emphasizing the vital importance of energy generation and efficiency from a multi-disciplinary perspective. State descriptions of pure substances and mixtures. Control volume analysis and conservation principles applied to systems with respect to mass, energy, and entropy with applications to power, refrigeration, chemically reacting and other energy conversion systems. Introduces a common problem-solving approach and processes to address real, open ended problems and creative application of theory. Both analytical and computer solutions of engineering thermodynamics problems are emphasized. This course is part of the Integrated Engineering Core for all engineering students. Prerequisite(s): MTH 168.

## EGR 203. Electrcl \& Elctrnc Crt. 3 Hours

ELECTRICAL AND ELECTRONIC CIRCUITS - This course provides an introduction to the discipline of Electrical and Computer Engineering. Covers principles of linear circuit analysis and problem solving techniques associated with circuits containing both passive and active components. Students are introduced to DC circuit analysis, AC circuit analysis, and transient circuit analysis. Applications of basic electronic devices including diodes, transistors, and operational amplifiers are studied. Both analytical and computer solutions of electrical and electronic circuit problems are emphasized. This course is part of the Integrated Engineering Core for all engineering students. Prerequisite(s): MTH 168.

## EGR 298. Research \& Innvtn Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.


## EGR 311. Prin of Nanotechnlgy. 3 Hours

PRINCIPLES OF NANOTECHNOLOGY - Nanoscale properties: optical, mechanical and thermal effects at the nanoscale, quantum confinement effects. Fabrication techniques: top downand bottom up techniques; nano-patterning, thin films. Nanometrology: scanning electron microscope, atomic force and microscope. Nanoelectronics: single electron devices, grapheme and carbon nanotube electronics. Carbon nanotubes, quantum dots, nanophotonics.

## EGR 320. Sys Des Scholars Sem. 3 Hours

SYSTEMS DESIGN SCHOLARS SEMINAR - Interdisciplinary systemsdesign experience to emphasize the basic problem-solving approach and philosophy of engineering for students of varied backgrounds. By permission only.

## EGR 330. Engr Dsgn \& Appr Techq. 0-3 Hours

 ENGINEERING DESIGN AND APPROPRIATE TECHNOLOGY - An experiential course in appropriate technology and engineering design which spans the winter and summer semesters and includes language preparation, cultural immersion, selected readings, and discussions on appropriate technology and a six to sixteen week summer servicelearning experience focused on technical or engineering related work in a developing country. Prerequisite(s): Junior or senior status; permission of instructor.
## EGR 398. Research \& Innvtn Lab. 1-3 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.


## EGR 493. Honors Thesis. 3 Hours

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.

## EGR 494. Honors Thesis. 3 Hours

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. Prerequisite(s): EGR 493.

## EGR 498. Honors Thesis. 3-6 Hours

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.

## EGR 499. Engr Systems Design. 3 Hours

ENGINEERING SYSTEMS DESIGN - This course will provide students of varied backgrounds with an interdisciplinary systems-design experience of applying basic engineering problem-solving and process-oriented approaches to a set of case studies while examining those case studies through different philosophical perspectives on engineering itself.

## Engineering Technology

The School of Engineering also offers a Bachelor of Science in Engineering Technology. The programs in which the degree is offered are:

- Electronic and Computer Engineering Technology
- Global Manufacturing Systems Engineering Technology
- Industrial Engineering Technology
- Mechanical engineering Technology

Students in Engineering Technology programs participate in an integrated education core in which they study specialized technical courses that emphasize rational thinking and the applicaton of engineering and scientific principles to the practical solution of technological problems. Extensive laboratory experience aids the students in the design, analysis, and implementaiton of sytems, as well as experiencing real-world application problems. The multidisiplinary curriculum culminates in a capstone design progject. All programs offer a cooperative education program in which the student is allowed to alternate work and study semesters after the first year. Additionally, many students acquire experience through internships, summer work, or study abroad.

Graduates are critical thinkers who can apply established scientific and engineering knowledge to implement systems, and are prepared to take places in society as responsible, humane, complete professionals. They work effectively on multidisciplinary design teams building complex systems. Graduates are usually involved in the design, performance evaluation, service, and sales of products, equipment, and manufacturing systems or the management of these activities. Several years after graduation, they may find themselves in management positions.
The University of Dayton engineering technology programs prepare graduates who:

- are competent and productive in the practice of both the technical and communication aspects of their profession;
- demonstrate ethical and professional standards of conduct
- exhibit leadership qualities as appropriate for the practice of their profession;
- are involved in service activities that benefit their profession and their community; and
- are engaged in continuing professional development.


## TRANSFER STUDENTS

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.

## MINORS IN ENGINEERING TECHNOLOGY

Students majoring in any engineering technology program may earn a minor in another engineering technology program by completing 12 approved semester hours of work in the second discipline. Courses already required in the student's program may not be counted in the minor. The director of the program in which the minor is to be earned is responsible for approving the list of courses for the minor.

The minors available to engineering technology students are:

- Automotive Systems
- Electronic and Computer Engineering Technology
- Global Manufacturing Systems Engineering Technology
- Industrial Automation and Applied Robotic Systems
- Industrial Engineering Technology
- Integrated Arts \& Technology
- Mechanical Engineering TEchnology
- Quality Assurance
- Sustainable Manufacturing

A minor in Engineering Technology is also offered for students enrolled in majors in the College of Arts and Sciences, the School of Business Administration, and the School of Education and Allied Professions.

## ACCREDITATION

The programs in electronic \& computer, global manufacturing systems, industrial, and mechanical engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

## ENGINEERING TECHNOLOGY FIRST-YEAR REQUIREMENTS

Students selecting any of the four engineering technology majors should take the courses prescribed for the first year as listed in the individual curricula in the Academic Information section of the Bulletin. Undeclared engineering technology students should follow the first-year schedule below.

Total first-year requirements (33):

- MTH 137-138 Calculus I with Review (8)
- MCT 110L Technical Drawing \& CAD (2)
- SET 153L Technical Computation Laboratory (1)
- CHM 123-123L General Chemistry with Laboratory (4)
- EGR 103 Engineering Innovation (2)
- ENG 100-200 or 200H English Composition I, II (6)
- REL 103 Introduction to Religion (3)
- PHL 103 Introduction to Philosophy (3)
- HST 103 The West and the World (3)
- SET 100 First-Year Seminar (1)
- SET 101 Enrichment Workshop (0)


## Minors in Engineering

The student majoring in chemical, civil, computer, 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 at least 12 semester hours of work. It can be composed of any number of 1 - to 4-semester-hour courses selected from the approved list of minor areas of study.

The minors available to engineering students are:

- Aerospace Engineering
- Bioengineering
- Chemical Processing
- Composite Materials Engineering
- Computer Systems
- Engineering Management
- Engineering Mechanics
- Environmental Engineering
- Materials Engineering
- Mechanical Systems
- Operations Engineering
- Polymer Materials
- Signals and Systems
- Structures
- Transportation Engineering
- Water Resources Engineering

A 12 semester hour concentration in electro-optics is available to electrical and computer engineering undergraduates. A 16 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 their sophomore year. The minor or concentration is designated on the student's transcript.

## 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 degrees Bachelor of Chemical, Civil, Electrical, or Mechanical Engineering, Bachelor of Science in Computer Engineering, and Bachelor of Science in Engineering Technology are conferred at commencement if the general requirements enumerated in Section V, Academic Regulations have been fulfilled as well as those listed below:

1. All bachelor's degrees granted by the University of Dayton require a cumulative grade point average of at least 2.0.
2. The cumulative grade-point average in all courses which have an engineering prefix must be at least 2.0 (C average).
3. 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.
4. 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.
5. The student must have taken their last 30 semester hours through the School of Engineering at the University of Dayton.

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 137
Bachelor of Civil Engineering 138
Bachelor of Electrical Engineering 134
Bachelor of Mechanical Engineering 132
Bachelor of Science in Computer Engineering 137
The semester hours of credit required for graduation in each engineering technology curriculum administered by the School of Engineering are as follows:

Bachelor of Science in Engineering Technology
Electronic and Computer Engineering Technology Major
Global Manufacturing Systems Engineering Technology Major 133
Industrial Engineering Technology Major 131
Mechanical Engineering Technology Major 132

## 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 common engineering program requirements. 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
4. Taking the prescribed courses as part of the first year.

| Required First-Year Program |  | 31-35 |
| :---: | :---: | :---: |
| CHM 123 | General Chemistry | 3 |
| CMM 110 | Group Dec-Making ${ }^{1}$ | 1 |
| CMM 111 or CMM 112 | Inform Public Sp ${ }^{1}$ Persuasive Public Sp | 1 |
| CMM 113 | Interviewing ${ }^{1}$ | 1 |
| EGR 100 | Enrichment Workshop ${ }^{2}$ | 0 |
| EGR 103 | Engineering Innovatn | 2 |
| ENG 100 <br> \& ENG 200 <br> or ENG 200H | Writing Seminar I and Writing Seminar II Writing Seminar II | 3-6 |
| HST 103 | West and World ${ }^{3}$ | 3 |
| MTH 168 <br> \& MTH 169 | Anly Geom \& Calc I and Anly Geom \& Calc II | 8 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 206 | Gen Physics I Mech ${ }^{4}$ | 3 |
| REL 103 | Intro to Religion | 3 |



## 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 as well as curriculum agreements with Sinclair Community College and Edison Community College.

## Bachelor's Plus Master's Program

The School of Engineering offers a combined program leading to both a bachelor's degree in an engineering major and a master's degree. Physics majors (College of Arts and Sciences) may also participate. The program is designed for the qualified student who wishes to pursue either greater specialization in a major area or to complement the undergraduate program with a related graduate-level concentration. Most students who select the program have received some advanced placement upon entry to engineering at the first-year level or take occasional summer courses.

The formal request for entrance into this program may be made as early as before the first semester of the student's junior year, but the student should consult their department to determine exactly when this request should be made. Admission requirements include a minimum cumulative grade point average of 3.00 and permission from the chairperson of the department corresponding to the student's undergraduate major and chair/program director of selected masster's program. Students must formally apply to the graduate school during their senior year. Selection of the graduate (master's) program area is indicated below:

| Undergraduate Program | Graduate Program Selections |
| :---: | :---: |
| Chemical Engineering | Bioengineering, Chemical <br> Engineering, Civil Engineering, <br> Electro-Optics*, Engineering <br> Management, Engineering <br> Mechanics, Management Science, <br> Materials Engineering, Renewable and Clean Energy |
| Civil Engineering | Bioengineering, Civil Engineering, <br> Engineering Management, <br> Engineering Mechanics, <br> Management Science, Materials <br> Engineering, Renewable and Clean Energy |
| Computer Engineering | Bioengineering, Civil Engineering, Electrical Engineering,Electro- <br> Optics*, Engineering Management, Engineering Mechanics, <br> Management Science, Materials Engineering, Renewable and Clean Energy |
| Electrical Engineering | Bioengineering, Civil Engineering, Electrical Engineering, ElectroOptics, Engineering Management, Engineering Mechanics, Management Science, Materials Engineering, Renewable and Clean Energy |
| Mechanical Engineering | Aerospace Engineering, <br> Bioengineering, Civil Engineering, <br> Electro-Optics*, Engineering <br> Management, Engineering <br> Mechanics, Management Science, <br> Materials Engineering, Mechanical <br> Engineering, Renewable and Clean <br> Energy |
| Engineering Technology | Engineering Management, Management Science, Materials Engineering |
| Physics | Electro-Optics, Materials Engineering |

* This major may need additional courses to qualify for the master's program.
The department chairperson and the graduate program director serve as an advisory committee to the student in establishing the combined program requirements. The first-year, sophomore, and junior years follow the curriculum of the student's selected bachelor's program.
A student who elects the combined program must satisfy both undergraduate and graduate degree requirements as to required cumulative grade point average for graduation. The graduate of the combined program will receive a bachelor's degree in the undergraduate major (e.g., Bachelor of Mechanical Engineering) and a master's degree in the graduate area (e.g., Master of Science in Materials Engineering). A student in the 5 -year combined program who chooses not to complete the program must complete all the undergraduate major program requirements to receive the bachelor's degree.

| Course Area | Semester | Hours |
| :--- | :--- | :--- |
| Senior Year | 1st Term | 2nd Term |


| Undergraduate department major | 11 | 11 |
| :---: | :---: | :---: |
| Undergraduate department or University requirement or electives | 3 | 3 |
| Graduate major (taken as graduate credit) | 3 | 3 |
| Total semester hours | 17 | 17 |
| Fifth Year |  |  |
| Graduate major (including thesis or project)* | 12 | 12 |
| * Civil Engineering majors require three additional semester hours for project option. |  |  |

## ETHOS

Engineers in Technical, Humanitarian Opportunities of Service-Learning
The ETHOS Program is founded on the belief that engineers are more apt and capable of serving our world appropriately when they have experienced opportunities that increase their understanding of technology's global linkage with values, culture, society, politics, and economy. ETHOS seeks to provide these opportunities through international and domestic service internships as well as through collaborative research and hands-on classroom projects that support the development of appropriate technologies for the developing world.

Such experiences expose students to alternative nontraditional technologies that are based on fundamental science and engineering principles and at the same time provide tangible and immediate impacts improving the lives of those who use them. ETHOS maintains as its educational objective to challenge students to think creatively and independently, to work as a team and communicate effectively, and to address issues of appropriate technology, environmental ethics, social responsibility, and cultural sensitivity.

## Optional Cooperative Education

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. All students majoring in engineering and engineering technology may participate in the cooperative education program. To be eligible, students 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.

## Programs of Study

To learn more about the available programs in the School of Engineering, explore the departments in the menu on the right.

## Chemical and Materials Engineering

- Bachelor of Chemical Engineering

Concentration:

- Energy Systems

Minors:

- Bioengineering
- Chemical Processing
- Composite Materials Engineering
- Energy Production Engineering
- Materials Engineering
- Polymer Materials

The Chemical \& Materials Engineering Department offers an undergraduate program leading to a Bachelor of Chemical Engineering degree. Chemical engineering applies the principles of the physical sciences, economics, and human relations to research, design, build, and supervise facilities that convert raw materials into useful products and services.

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 academia. Many use a chemical engineering education as a pathway 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. The second part of the curriculum offers a balance between classroom and laboratory experience in stressing chemical engineering topics such as transport phenomena, thermodynamics, kinetics and reactor design, separation processes, fluid flow and heat transfer operations, process control, and process design. The development of design tools, communication, and interpersonal skills is integrated throughout the curriculum. The curriculum allows minors in emerging technologies such as bioengineering, environmental engineering and materials engineering. Those interested in attending medical/dental school can pursue a premed preparation as part of their curriculum.

The educational objectives of the chemical engineering program graduates are:

- Chemical Engineering graduates have successful careers in the chemical process industry with the skills necessary to have opportunities to work in non-traditional industries and positions.
- Chemcial Engineering graduates are successful at prestigious graduate, medical, and law schools.
- Chemical Engineering graduates are committed to performing ethically while serving their professions, companies, and communities.

Major:

- Chemical Engineering graduates exhibit strong critical thinking skills from the breadth of their general education and the depth of their foundation in engineering principles, and engage in continuous intellectual and personal growth.


## Faculty

Charles E. Browning, Department Chairperson
Robert J. Wilkens, Chemical Engineering Director
Professors Emeriti: Lu, Snide
Professors: Browning, Eylon, Flach, Fried, Lafdi, Lee, Myers, T. Saliba,
Sandhu, Wilkens
Associate Professor: Gold
Assistant Professor: Comfort
Senior Lecturer: Ciric
Lecturer: Elsass
Bachelor of Chemical Engineering (CME)

| CHM 123 | General Chemistry | 3 |
| :---: | :---: | :---: |
| CHM 123L | Gen Chemistry Lab | 1 |
| CHM 124 | General Chemistry | 3 |
| CHM 124L | Gen Chemistry Lab | 1 |
| CHM 313 | Organic Chemistry | 3 |
| CHM 313L | Organic Chemistry Lab | 1 |
| CHM 314 | Organic Chemistry | 3 |
| CHM 314L | Organic Chem Lab | 1 |
| CME 101 | Intro to CME (2 semesters) | 0-1 |
| CME 200 | Prof Development Sem (2 semesters) | 0-1 |
| CME 203 | Matl\&Energy Balance | 3 |
| CME 281 | Chm Engr Computatns | 3 |
| CME 306 | CME Rctn Kntcs\&Engr | 3 |
| CME 311 | Chm Engr Thrmdynmcs | 3 |
| CME 324 | Transport Phenom I | 3 |
| CME 325 | Transport Phenom II | 3 |
| CME 326L | Transport Phenom Lab | 2 |
| CME 365 | Separatn Techniques | 3 |
| CME 381 | Adv Math-Chem Engrs | 3 |
| CME 408 | Seminar (2 semesters) | 0-1 |
| CME 430 | CME Design I | 3 |
| CME 431 | CME Design II | 3 |
| CME 452 | Process Control | 3 |
| CME 453L | Process Control Lab | 2 |
| CME 465 | Fluid Flow\&Ht Tr Pro | 3 |
| CME 466L | Chem Engr Oper Lab | 2 |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| EGR 100 | Enrichment Workshop (2 semesters) | 0 |
| EGR 103 | Engineering Innovatn | 2 |
| EGR 201 | Engr Mechanics | 3 |
| EGR 202 | Engr Thermodynamics | 3 |
| EGR 203 | Electrcl \& Elctrnc Crt | 3 |
| ENG 100 <br> \& ENG 200 <br> or ENG 200H | Writing Seminar I and Writing Seminar II Writing Seminar II | 6 |


| HST 103 | West and World |  |
| :--- | :--- | :--- |
| or HST 198 | HST Scholars Sem | 3 |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| REL 103 | Intro to Religion | 3 |
| Chemistry or Biology elective ${ }^{1}$ | 3 |  |
| CME elective ${ }^{1}$ |  | 3 |
| Engineering/Science electives ${ }^{1}$ | 6 |  |
| General Education elective ${ }^{2}$ | 3 |  |
| General Education electives | 12 |  |
| Total Hours | 137 |  |
| 1 | Must be selected from list approved by the Chemical and Materials |  |
|  | Engineering Department. |  |
| 2 | Must be selected from approved list of PHL or REL ethics courses. |  |

## Concentration in Energy Systems Chemical (CES)

This concentration is open to all engineering students. The Energy Systems Concentration provides an interdisciplinary concentration in energy systems and its social consequences. Students completing this concentration will be prepared for jobs in both industrial and building energy systems, a rapidly growing market.

| ASI 320 | Cities and Energy ${ }^{1,2}$ | 3 |
| :---: | :---: | :---: |
| CME 203 | Matl\&Energy Balance | 3 |
| CME 311 | Chm Engr Thrmdynmcs | 3 |
| CME 324 | Transport Phenom I | 3 |
| CME 325 | Transport Phenom II | 3 |
| CME 326L | Transport Phenom Lab | 1-2 |
| CME 430 | CME Design I | 3 |
| CME 431 | CME Design II | 3 |
| CME 465 | Fluid Flow\&Ht Tr Pro | 3 |
| CME 466L | Chem Engr Oper Lab | 2 |
| CME elective |  |  |
| Select one course from: |  | 3 |
| CME 486 | Intro-Petroleum Engr |  |
| or CME 586 | Intro-Petroleum Engr |  |
| CME 524 | Electrochem Pwr |  |
| or MEE 575 | Fatg\&Frac-Mtl\&Alloy |  |
| CME 565 | Fund of Combustion |  |
| CME 574 | Air Pollutn I |  |
| Select two courses from: |  | 6 |
| Select any CME elective course above ${ }^{3}$ |  |  |
| AEE 560 | Propulsion Systems |  |
| or MEE 560 | Propulsion Systems |  |
| CME 507 | Adv Thermodynamics |  |
| or MEE 511 | Adv Thermodynamics |  |


| CME 579 | Energy Materials |
| :--- | :--- |
| or MAT 579 | Mtls Adv Egr Appl |
| MEE 413 | Propulsion |
| or MEE 513 | Propulsion |
| MEE 420 | Energy Effent Bldgs |
| or MEE 569 | Energy Eff Bldgs |
| MEE 471 | Des-Thermal Systems |
| or MEE 571 | Des-Thermal Systems |
| MEE 473 <br> or MEE 573 | Renewable Energy Sys |
| Renewable Energy Sys |  |
| MEE 478 <br> or MEE 578 | Energy Eff Manufact |
| Energy Eff Manufactr |  |

1 Or another approved humanities elective related to Energy Systems.
2 Satisfies History requirement.
3 Course cannot have already been chosen as CME elective.

## Minor in Bioengineering (BIE)

This minor is open to chemical, civil, computer, electrical, and mechanical engineering majors. The program is designed to expose the student to the use of engineering principles in biological systems and applications.

| BIO 151 | Concepts of Bio I | 3 |
| :---: | :---: | :---: |
| or BIO 152 | Concepts of Bio II |  |
| CME 490 | Intro-Bioengineerng I | 3 |
| Select one course from: |  | 3 |
| CME 491 | Biomed Engr I |  |
| MEE 530 | Biomechanical Egr |  |
| Select one course from: ${ }^{1}$ |  | 3 |
| BIO 151 | Concepts of Bio I |  |
| BIO 152 | Concepts of Bio II |  |
| BIO 312 | General Genetics |  |
| BIO 403 | Physiology I |  |
| BIO 411 | General Microbiology |  |
| BIO 440 | Cell Biology |  |
| CHM 420 | Biochemistry |  |
| CHM 451 | Gen Biochemistry I |  |
| CHM 452 | Gen Biochemistry II |  |
| CME 491 | Biomed Engr I |  |
| CME 492 | Chem \& Bio Sensors |  |
| BIE 595 | Special Problems |  |
| MEE 530 | Biomechanical Egr |  |

Total Hours
1 Course cannot have already been chosen above.

## Minor in Chemical Processing (CHP)

This minor is open to civil, computer, electrical, and mechanical engineering majors. The program is designed to acquaint the student with industrial operations in the chemical process industries such as heat exchange, distillation, extraction, humidification, etc. The elective courses cover a wide range of topics to accommodate the student's special interests.

| CME 203 | Matl\&Energy Balance | 3 |
| :--- | :--- | :--- |
| CME 324 | Transport Phenom I | 3 |
| CME 365 | Separatn Techniques | 3 |
| Select one course from: |  | 3 |
| CME 306 | CME Rctn Kntcs\&Engr |  |
| CME 430 | CME Design I |  |
| CME 452 | Process Control |  |
| CME 465 | Fluid Flow\&Ht Tr Pro | 12 |
| CME 499 | Special Problems | 1 |

## Minor in Composite Materials Engineering (CMA)

This minor is open to chemical, civil, and mechanical engineering majors. The program is designed to expose the student to the design, processing, and characterization of composite materials and their various applications in industry.

| CME 510 | High Prf Therm-Polymr | 3 |
| :--- | :--- | :--- |
| or MAT 510 | High Prf Therm-Polymr |  |
| CME 512 | Adv Composites | 3 |
| or MAT 542 | Adv Composites | 6 |


| CEE 540 | Composites Design |
| :--- | :--- |
| or MAT 540 | Composite Design |
| CEE 543 | Analy Mech-Cmp Matls |
| or MAT 543 | Analy Mech-Cmp Matls |
| CEE 546 | Finite Elmnt Anly I |
| or MEE 546 | Finite Elmnt Anly I |
| CME 509 | Intro Polymr Science |
| or MAT 509 | Intro-Polymer Sci |
| CME 527 | Methds-Polymer Analy |
| or MAT 527 | Methds-Polymer Analy |
| CME 528 | Chem Behav of Matls |
| or MAT 528 | Chem Behav of Matls |
| CME 580 | Polymers Durability |
| or MAT 580 | Polymer Durability |
| Total Hours |  |

## MINOR IN ENERGY PRODUCTION ENGINEERING (EPE)

This minor is open to all engineering majors. A selection of courses covering the production of energy:

| Select four courses from: |
| :--- |
| BIE/CME/RCL Biofuel |
| 533 |
| CME 486/586 | Intro-Petroleum Engr $\quad 12$


| MEE 473/573/ | Renewable Energy Sys |  |
| :--- | :--- | :--- |
| RCL 573 |  |  |
| RCL 590 | Spec Probs in RCL ${ }^{1}$ |  |
| RCL 590 | Spec Probs in RCL $^{2}$ |  |
| RCL 590 | Spec Probs in RCL ${ }^{3}$ |  |
| Total Hours |  |  |
| 1 | Must be Thermal Systems Analysis. |  |
| 2 | Must be Solar Energy Engineering. |  |
| 3 | Must be Wind Energy Engineering. |  |

## Minor in Materials Engineering (MAT)

This minor is open to all engineering majors. A general overview of materials with choice courses in polymers, composites, nanomaterials, and material characterization.

| MAT 501 | Prin-Materials I | 3 |
| :---: | :---: | :---: |
| MAT 502 | Prin of Materials II | 3 |
| Select two cours | from: | 6 |
| CME 509 or MAT 509 | Intro Polymr Science Intro-Polymer Sci |  |
| CME 510 or MAT 510 | High Prf Therm-Polymr High Prf Therm-Polymr |  |
| CME 511 or MAT 511 | Prin of Corrosion Prin of Corrosion |  |
| CME 512 or MAT 542 | Adv Composites <br> Adv Composites |  |
| CME 527 or MAT 527 | Methds-Polymer Analy <br> Methds-Polymer Analy |  |
| CME 528 or MAT 528 | Chem Behav of Matls Chem Behav of Matls |  |
| CME 579 or MAT 579 | Energy Materials Mtls Adv Egr Appl |  |
| CME 580 or MAT 580 | Polymers Durability <br> Polymer Durability |  |
| MAT 504 | Technqs-Materls Anal |  |
| MAT 506 | Mech Behavior-Matrls |  |
| MAT 507 | Intro-Ceramic Matrls |  |
| MAT 508 | Prin-Materls Selectn |  |
| MAT 521 | NDE/SHM |  |
| MAT 535 | High Temperture Matl |  |
| MAT 541 | Exp Mech Cmpsite Mat |  |
| MAT 543 | Analy Mech-Cmp Matls |  |
| MAT 544 | Mech-Composite Struc |  |
| MAT 575 | Fracture \& Fatigue |  |
| MAT 577 | Lght Structrl Metals |  |
| MAT 590 | Selected Readings |  |
| MAT 595 | Special Problems |  |
| MAT 601 | Surface Chem Solids |  |
| MAT 604 | Nanostruc Matrls |  |
| MEE 312 | Engr Materials I |  |
| Total Hours |  | 12 |

## Minor in Polymer Materials (PME)

This minor is open to all engineering majors. Coverage of polymers including thermosets and thermoplastics and composite materials in which polymers are used as constituents. Methods of polymer processing and polymer characterization are also included.

| CME 509 | Intro Polymr Science | 3 |
| :--- | :--- | :---: |
| or MAT 509 | Intro-Polymer Sci |  |
| CME 510 | High Prf Therm-Polymr |  |
| or MAT 510 | High Prf Therm-Polymr | 3 |
| Select two courses from: | 6 |  |


| CME 512 | Adv Composites |
| :--- | :--- |
| or MAT 542 | Adv Composites |
| CME 527 | Methds-Polymer Analy |
| or MAT 527 | Methds-Polymer Analy |
| CME 528 | Chem Behav of Matls |
| or MAT 528 | Chem Behav of Matls |
| CME 580 | Polymers Durability |
| or MAT 580 | Polymer Durability |
| MAT 540 | Composite Design |
| MAT 543 | Analy Mech-Cmp Matls |
| Total Hours |  |

## Courses

CME 101. Intro to CME. 0-1 Hours
INTRODUCTION TO CHEMICAL ENGINEERING - Introduction to the chemical engineering faculty, facilities, and curriculum; survey of career opportunities in chemical engineering. Introduction to the University firstyear experience.

## CME 198. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analysing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evalutating engineering solutions and engineering designs. Proposals from terams of students will be considered.

CME 200. Prof Development Sem. 0-1 Hours
PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

## CME 203. Matl\&Energy Balance. 3 Hours

MATERIAL AND ENERGY BALANCES - Introductory course on the application of mass and energy conservation laws to solve problems typically encountered in chemical process industries. Prerequisite(s): CHM 123; MTH 168. Corequisite(s): EGR 202.

## CME 281. Chm Engr Computatns. 3 Hours

CHEMICAL ENGINEERING COMPUTATIONS - Development of computational skills with an emphasis on algorithm development and problem solving. Computational skills are applied to typical problems in chemical engineering, engineering data analysis and statistics. Corequisite(s): CME 203.

## CME 298. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CME 306. CME Rctn Kntcs\&Engr. 3 Hours

CHEMICAL REACTION KINETICS AND ENGINEERING - Chemical reaction kinetics, ideal reactor analysis and design, multiple reactor/ reaction systems, and heterogeneous catalysis. Prerequisite(s): CME 311.

## CME 311. Chm Engr Thrmdynmcs. 3 Hours

CHEMICAL ENGINEERING THERMODYNAMICS - Development and application of the fundamental principles of chemical thermodynamics: Vapor/liquid equilibrium, solution thermodynamics, chemical reaction equilibria, and thermodynamic analysis of chemical engineering processes. Prerequisite(s): CME 203; EGR 202; MTH 218.

## CME 324. Transport Phenom I. 3 Hours

TRANSPORT PHENOMENA I - Viscosity, shell momentum balances, isothermal equations of change, thermal conductivity, shell energy balances, non-isothermal equations of change, mass diffusivity, shell species mass balances, equations of change for multicomponent systems. Prerequisite(s): CME 203, CME 281; MTH 219. Corequisite(s): CME 381.

## CME 325. Transport Phenom II. 3 Hours

TRANSPORT PHENOMENA II - Multidimensional momentum, energy, and mass transport, dimensionless parameters, turbulence and numerical solution methods. Prerequisite(s): CME 324, CME 381.

## CME 326L. Transport Phenom Lab. 1-2 Hours

TRANSPORT PHENOMENA LABORATORY - Viscosity, conductivity, diffusion coefficient measurements, velocity, temperature, concentration profiles, engineering instrumentation, and experimental error analysis. Prerequisite(s): CME 324. Corequisite(s): CME 325.

## CME 365. Separatn Techniques. 3 Hours

SEPARATION TECHNIQUES - Equilibrium staged separations: distillation, extraction and absorption, with an emphasis on distillation. Prerequisite(s): CME 311, CME 324.

## CME 381. Adv Math-Chem Engrs. 3 Hours

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 ordinary and partial differential equations. Prerequisite(s): CME 281; MTH 219.

## CME 398. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CME 408. Seminar. 0-1 Hours

SEMINAR - Presentation of lectures on contemporary chemical engineering subjects by students, faculty, and engineers in active practice. Registration required of senior students only.

## CME 409. Intro-Polymer Engr. 3 Hours

INTRODUCTION TO POLYMER SCIENCE-THERMOPLASTICS Broad technical overview of the nature of synthetic macromolecules, including the formation of polymers and their structure, structure-property relationships, polymer characterization and processing, and applications of polymers. Fundmental topics such as viscoelasticity, the glassy state, time-temperature superposition, polymer transitions, and free volume will also be reviewed. The course focuses on thermoplastic polymers. Prerequisite(s): CHM 313, PHY 206, MTH 219.

## CME 410. Hgh Prf Therm-Polymr. 3 Hours

HIGH PERFORMANCE THERMOSET POLYMERS - Survey of high performance thermoset resins, focusing on chemistry, processing and properties of six general resin families; vinyl ester, epoxy, phenolic, cyanate ester, bismaleimide, and polyimides. The course will include fundamental discussions of polymerization mechanisms, network structure development, rheology and time-temperature transformation, resin toughening, and structure-processing-property relationships. Characterization techniques will also be reviewed. Prerequisite(s): CHM 313.

## CME 412. Adv Composites. 3 Hours

ADVANCED COMPOSITES - Materials and processing. Comprehensive introduction to advanced fiber reinforced polymeric matrix composites. Constituent materials and composite processing will be emphasized with special emphasis placed on structure-property relationships, the role of matrix in composite processing, mechanical behavior, and laminate processing. Specific topics will include starting materials, material forms, processing, quality assurance, test, methods, and mechanical behavior. Prerequisite(s): (CME 409 or CME 509 or MAT 501) or permission of instructor.

## CME 429. Computational Chem. 3 Hours

COMPUTATIONAL CHEMISTRY - Introduction to computational chemistry including a discussion of ab initio, semiempical, and DFT methods and an overview of molecular mechanics and molecular simulation methods. Lectures are supplemented by simulation exercises using commercial programs such a Gaussian and Molecular Studio. Prerequisite(s):CHM 124 or permission of instructor.

## CME 430. CME Design I. 3 Hours

CHEMICAL ENGINEERING DESIGN I - Study of basic design concepts, safety and health issues, capital cost estimation, manufacturing cost estimation, basic economics and profitability analysis, materials of construction, materials selection and process vessel design. Prerequisite(s): CME 203.

## CME 431. CME Design II. 3 Hours

CHEMICAL ENGINEERING DESIGN II - Project-based study of principles of process design and economics, use of process flowsheet simulators, short-cut design procedures, process optimization, and plant layout. Prerequisite(s): CME 306, CME 365, CME 430, CME 465.

## CME 432. Chem Product Design. 3 Hours

CHEMICAL PRODUCT DESIGN - Application of the design process to products based on chemical technology. Coverage of the entire design process from initial identification of product needs, to the generation and selection of product ideas, and culminating in the manufacture of a new product.

## CME 452. Process Control. 3 Hours

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(s): CME 381.

## CME 453L. Process Control Lab. 2 Hours

PROCESS CONTROL LABORATORY - Team-based, project oriented study of process dynamics and digital control using computer-based data acquisition and control systems with a focus on real time process monitoring and control. Prerequisite(s): (CME 452, CME 466L) or permission of instructor.

## CME 465. Fluid Flow\&Ht Tr Pro. 3 Hours

FLUID FLOW AND HEAT TRANSFER PROCESSES - Fluid mechanics, transportation and metering of fluids, heat transfer and its applications. Prerequisite(s): CME 311, CME 324.

## CME 466L. Chem Engr Oper Lab. 2 Hours

CHEMICAL ENGINEERING UNIT OPERATIONS LABORATORY Study of the equipment and utilization of various chemical engineering processes. Team based experimentation includes designing, and performing experiments on common chemical process unit operations apparatuses. After experimentation, students analyze data and compare with literature for experiment validation. Report writing and group presentations are emphasized. Prerequisite(s): CME 365. Corequisite(s): CME 465.

## CME 486. Intro-Petroleum Engr. 3 Hours

INTRODUCTION TO PETROLEUM ENGINEERING - Introduction to the fundamental concepts in petroleum engineering. Petroleum topics include overviews of areas such as petroleum geology, petroleum fluids and thermodynamics, drilling and completion, and production and multiphase flow. In addition this course will cover refinery operations.

## CME 489. Princ Biol for Bioen. 3 Hours

PRINCIPLES OF BIOLOGY FOR BIOENGINEERS - This course is designed for students with undergraduate majors in engineering or nonbiological sciences. The focus of the course is to provide a common broad base of basic knowledge and terminology in the biological sciences required for coursework in the bioengineering emphasis tracts. Prerequisite(s): (BIO 151, BIO 152) or permission of instructor.

## CME 490. Intro-Bioengineerng I. 3 Hours

INTRODUCTION TO BIOENGINEERING - This class provides an introduction to bioengineering - a branch of engineering focusing on biological systems, biomaterials, engineering applications in living systems, and many other areas. By the end of this course, students will be able to understand bioengineering applications and processes, and properly apply engineering fundamentals, including transport phenomena and reaction kinetics, to these systems. Prerequisite(s): (BIO 151, CME 324 or BIE 505) or permission of instructor.

## CME 491. Biomed Engr I. 3 Hours

BIOMEDICAL ENGINEERING I - Introduction to the fundamental concepts in biomedical engineering with a special focus on chemical engineering applications. Biomedical topics include overviews of areas such as biomaterials, tissue engineering, biosensors and biomedical engineering technology. Prerequisite(s): (BIO 151; (CHM 420 or CHM 451); CME 324, CME 365) or permission of instructor.

## CME 492. Chem \& Bio Sensors. 3 Hours

CHEMICAL SENSORS AND BIOSENSORS - Analysis performed with chemical sensors complement laboratory analyses and offer the potential for more rapid and on-line analyses in complex sample matrices. The demand for new chemical sensors, biosensors, and sensing concepts is rapidly increasing and associated with the growing need to understand and/or control complex chemical and biochemical processes or detect the presence of toxic chemical or biological agents. Prerequisite(s): Permission of instructor.

## CME 493. Honors Thesis. 3 Hours

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.

## CME 494. Honors Thesis. 3 Hours

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. Prerequisite(s): CME 493.

## CME 498. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CME 499. Special Problems. 1-6 Hours

SPECIAL PROBLEMS IN CHEMICAL ENGINEERING - Particular assignments to be arranged and approved by chairperson of the department.

# Civil and Environmental Engineering and Engineering Mechanics 

Major:

- Bachelor of Civil Engineering

Minors:

- Engineering Mechanics
- Environmental Engineering
- Structures
- Transportation Engineering
- Water Resources Engineering

The Department of Civil and Environmental Engineering and Engineering Mechanics offers a broad-based curriculum leading to a Bachelor of Civil Engineering (BCE) degree. The BCE program offers sufficient elective courses to obtain a concentration in construction, environmental engineering, structures, water resources, geotechnical or transportation.

The mission of the program is to graduate broadly educated, technically competent individuals prepared for professional careers or for advanced studies.

Within the first several years following completion of the program, University of Dayton Bachelor of Civil Engineering graduates are prepared to meet the following program educational objectives:

- have successful careers in civil engineering or other professions
- pursue advanced degrees in support of their chosen profession
- conduct professional and personal endeavors in a responsible and ethical manner
- seek service and leadership roles in their profession and community
- continue their professional and personal growth through a process of life-long learning.

Civil engineering is the profession in which knowledge of the mathematical and physical sciences gained by study, experience, and practice is applied with judgment to develop ways to economically utilize the materials and forces of nature 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, water resources, and geotechnics. Their broad education however, also prepares them for materials engineering, engineering management, and the aerospace, power, and automotive industries. Civil engineering has applications in conceptual and detail design, field operations, computers, and consulting.
Members of the student chapters of the American Society of Civil Engineers (ASCE), Chi Epsilon, Institute of Transportation Engineers (ITE), and National Society of Professional Engineers (NSPE) have the opportunity to meet regularly with practicing engineers in the Dayton community.

## Faculty

Donald V. Chase, Chairperson

Professors Emeriti: Bogner, J. Whitney
Distinguished Service Professor: Ryckman
Professor: J. Saliba
Associate Professor: Eustace
Assistant Professors: Bilgin, Crosson, Donaldson, D. Taylor, Toubia, T. Whitney
Lecturer: Alakkad
Visiting Professor: Chase
Adjunct Assistant Professor: McCrate

## Bachelor of Civil Engineering (cee)

CEE 101 Intro to Civil Engr (2 semesters) 0
CEE 200 Prof Development Sem (2 semesters) 0
CEE 213 Surveying 2
CEE 214 Highway Geometics 2
CEE 215L Surveying Field Prac 3
CEE 221L Civil Computatn Lab 2
CEE 300 Seminar (2 semesters) 0
CEE $311 \quad$ Civil Engr Materials 3
\& 311L
CEE 312
\& 312L
CEE 313
\& 313L
CEE 316 Analy of Strctures I 3
CEE 333 Water Resources Engr 3
CEE $400 \quad$ Prof Developmnt Sem (2 semesters) 0
CEE 403 Transportation Engr 3
CEE 411 Dsg-Steel Structures 3
CEE 412 Dsgn-Concrete Struc 3
CEE 425 Civil Engr Systems 3
CEE $434 \quad$ Water \& Waste Engr 4
\& 434L and Watr\&Waste Engr Lab
CEE $450 \quad$ Civil Engr Design ${ }^{1} 3$
CHM 123 General Chemistry 4
\& 123L and Gen Chemistry Lab
CHM 124 General Chemistry 3
CMM $110 \quad$ Group Dec-Making 1
CMM 111 Inform Public Sp 1
$\begin{array}{lll}\text { or CMM 112 } & \text { Persuasive Public Sp } & \\ \text { CMM 113 } & \text { Interviewing } & 1\end{array}$
EGM 202 Dynamics 3
EGM 303 Mechanics II 3
EGR 100 Enrichment Workshop (2 semesters) 0
EGR 103 Engineering Innovatn 2
EGR 201 Engr Mechanics 3
EGR 202 Engr Thermodynamics 3
EGR 203 Electrcl \& Elctrnc Crt 3
ENG $100 \quad 6$
\& ENG 200 and Writing Seminar II ${ }^{2}$
or ENG 200H Writing Seminar II
GEO 218 Engineering Geology
HST 103 West and World 3
or HST 198 HST Scholars Sem

3
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3
2
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3

| HST 343 | Hst-Civil Engr | 3 |
| :--- | :--- | :---: |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| REL 103 | Intro to Religion | 3 |
| CEE electives ${ }^{3,4}$ | 9 |  |
| General Education electives ${ }^{3,5}$ | 12 |  |
| Tech elective |  | 3 |
| Total Hours |  | 138 |

1 Admittance into CEE 450 requires successful completion of all required engineering courses with an average academic unit GPA of no less than 2.0, or approval of the chair.
2 Three semester hours waived if accepted into ENG 200H.
3 Select from list approved by the Department of Civil and Environmental Engineering and Engineering Mechanics.
4 May be used to concentrate studies in the areas of construction, environmental, structures, geotechnical, transportation, and water resources engineering.
5 See General Education Requirement, Chapter V. Some General Education requirements are specific in the program; (e.g. GEO 218); Others are to be chosen from the listing of approved courses. Consult advisor.

## Minor in Engineering Mechanics (eme)

This minor is open to all engineering majors. The program provides a broad treatment of engineering mechanics including theoretical, numerical, and experimental topics.

| Select four courses from: ${ }^{1}$ | 12 |  |
| :--- | :--- | :--- |
| CEE 540 | Composites Design |  |
| or EGM 540 | Composite Design |  |
| EGM 303 | Mechanics II |  |
| EGM 503 | Intr Continum Mechn |  |
| EGM 511 | Exprmntl Stress Anly |  |
| EGM 533 | Theory of Elasticity |  |
| EGM 546 | Finite Elmnt Anly I |  |
| MAT 540 | Composite Design |  |
| MEE 504 | Fund of Fluid Mech |  |
| Total Hours |  | 12 |

1 Courses selected may not be those already required for student's major.

## Minor in Environmental Engineering (eve)

This minor is open to all non-civil engineering majors. The program defines contemporary problems of pollution and identifies the technological approaches necessary to preserve the quality of our environment.

$$
\text { Select four courses from: }{ }^{1}
$$

CEE 390 Envr Pollutn Cntrl ${ }^{2}$

| CEE 434 | Water \& Waste Engr $^{3}$ |
| :--- | :--- |
| CEE 499 | Special Problems $^{4}$ |
| or CME 499 | Special Problems |
| CEE 560 | Bio Proc Wastewatr |
| CEE 562 | Phy \& Chm Wastewatr |
| CEE 563 | Hazardous Waste Engr |
| or CME 563 | Hazardous Waste Engr |
| CEE 564 | Solid Waste Engineering |
| CEE 574 | Fund. of Air Pollution Engr. |
| CEE 575 | Air Pollution Engr |
| or CME 575 | Air Pollutn II |
| CEE 576 | Envir. Engr. Separation Proc. |
| CHM 341 | Environmental Chem |
| EGR 330 | Engr Dsgn \& Appr Techq ${ }^{4}$ |
| Total Hours |  |

1 Courses selected may not be those already required for student's major. It is recommended the minor include one course pertaining to water, air, and solid.
2 Not permissible for CME students.
3 Or CEE 595 Special Problems in Civil Engineering.
4 No more than three credit hours of EGR 330, CEE 499, or other special project coursework may be applied to this minor. Subject to approval of the CEE chairperson within two weeks of the start of the semester.

## Minor in Structures (str)

This minor is open to all non-civil engineering majors. The program provides a broad coverage of general concepts of structural design as applied to buildings, mechanical systems, and machinery.

Select four courses from: 12

| CEE 311 | Civil Engr Materials |
| :--- | :--- |
| \& 311L | and Civil Engr Matls Lab |
| CEE 316 | Analy of Strctures I |
| CEE 411 | Dsg-Steel Structures |
| CEE 412 | Dsgn-Concrete Struc |
| CEE 500 | Adv Struct Analysis |
| CEE 501 | Struct. Analysis by Computer |
| CEE 502 | Prestressed Concrete |
| CEE 504 | Structural Dynamics |
| CEE 505 | Plastic Design in Steel |
| CEE 507 | Masonry Design |
| CEE 508 | Design Timber Struc |
| CEE 524 | Foundation Engr |
| CEE 540 | Composites Design |
| Total Hours |  |

## Minor in Transportation Engineering (tre)

This minor is open to all non-civil engineering majors. The program provides broad coverage in the planning, design, operations, and management of the transportation system.

Select four courses from: ${ }^{1}$
CEE 403 Transportation Engr

| CEE 515 | Pavmt Engineering |
| :--- | :--- |
| CEE 550 | Hghwy Geometrc Desgn |
| CEE 551 | Traffic Engineering |
| CEE 552 | Intelligent Transportation Sys |
| CEE 553 | Travel Demand Mdlng |
| CEE 554 | Urban Public Trnsprtn |
| CEE 555 | Hgwy Traffic Safety |
| CEE 558 | Traffic Engr Rsrch |
| CEE 595 | Sel Readings-CEE |
| Total Hours |  |

1 Courses selected may not be those already required for student's major.

## Minor in Water Resources Engineering (wre)

This minor is open to all non-civil engineering majors. The program provides broad coverage to the general concepts used in water resources engineering including hydraulics and hydrology issues within economic, optimization, operation, and management frameworks.

Select four courses from: ${ }^{1}$

| CEE 313 | Hydraulics |
| :--- | :--- |
| CEE 333 | Water Resources Engr |
| CEE 580 | Hydrology \& Seepage |
| CEE 582 | Adv Hydraulics |
| CEE 595 | Sel Readings-CEE |

Total Hours
1 Courses selected may not be those already required for student's major.

## Civil Environmental Engr Courses

## CEE 101. Intro to Civil Engr. 0-1 Hours

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.

## CEE 198. Research\&Innvtn Lab. 1,6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CEE 200. Prof Development Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

CEE 213. Surveying. 2 Hours
SURVEYING - Theory of measurements, computation, and instrumentation. Boundary and construction surveys, triangulation, and level net adjustments. First term, each year. Corequisite(s): MTH 168.

CEE 214. Highway Geometics. 2 Hours
HIGHWAY GEOMETRICS - Study of circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, and contour grading. Second term, each year. Prerequisite(s): CEE 213.

## CEE 215L. Surveying Field Prac. 3 Hours

SURVEYING FIELD PRACTICE - Field work and computation in topography, highway surveying, triangulation, level net, celestial observations, evaluation of errors, and preparation of plans. Five eighthour days a week for three weeks. Summer, each year. Prerequisite(s): CEE 214.

## CEE 221L. Civil Computatn Lab. 2 Hours

CIVIL COMPUTATION LABORATORY - Introduction to commonlyused software in civil engineering profession. Emphasis on the use of spreadsheets to solve civil engineering problems. Introduction to computer aided drawing and design and the use of popular CADD packages in the civil engineering profession.

## CEE 298. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CEE 300. Seminar. 0 Hours

SEMINAR - Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of all civil engineering juniors.

## CEE 310L. Civil Engr Lab. 1 Hour <br> CIVIL ENGINEERING LABORATORY - Civil Engineering Laboratory.

## CEE 311. Civil Engr Materials. 2 Hours

CIVIL ENGINEERING MATERIALS - Physical and mechanical properties of construction materials; Portland cement concrete, bituminous materials, wood, ferrous and non-ferrous metals, masonry units; proportioning of concrete mixtures including admixtures. Prerequisite(s): EGM 303. Corequisite(s): CEE 311L.

## CEE 311L. Civil Engr Matls Lab. 1 Hour

CIVIL ENGINEERING MATERIALS LABORATORY - Laboratory experiments in the physical and mechanical properties of construction materials; Portland cement concrete, bituminous materials, wood, ferrous and non-ferrous metals, and masonry units; proportioning of concrete mixtures including admixtures. Corequisite(s): CEE 311.

## CEE 312. Geotechnical Engr. 3 Hours

GEOTECHNICAL ENGINEERING - Principles of soil structures, classification, capillarity, permeability, flow nets, shear strength, consolidation, stress analysis, slope stability, lateral pressure, bearing capacity, and piles. Second term, each year. Prerequisite(s): CEE 313; EGM 303. Corequisite(s): CEE 312L; GEO 218.

## CEE 312L. Geotechncl Engr Lab. 1 Hour

GEOTECHNICAL ENGINEERING LABORATORY - Laboratory tests to evaluate and identify soil properties for engineering purposes. Design problems are also included. Second term, each year. Corequisite(s): CEE 312.

## CEE 313. Hydraulics. 3 Hours

HYDRAULICS - Basic principles of fluid mechanics in closed conduits and open channels. Principles include fluid statics, conservation of mass, conservation of momentum, conservation of energy, and fluid dynamics. Presentation of fluid mechanics principles through the solution of practical problems and a comprehensive semester project. Prerequisite(s): EGM 202. Corequisite(s): CEE 313L.

## CEE 313L. Hydraulics Lab. 1 Hour

HYDRAULICS LABORATORY - Laboratory experiments and problems associated with CEE 313. Corequisite(s): CEE 313.

## CEE 316. Analy of Strctures I. 3 Hours

ANALYSIS OF STRUCTURES I - Elastic analysis of structures; deflection, moment-area theorems; conjugate-beam; virtual work influence lines; analysis of indeterminate structures using force methods; theories of failure, stiffness matrices, and use of software to analyze structures. Prerequisite(s): EGM 303.

## CEE 317. Analy of Structs II. 3 Hours

ANALYSIS OF STRUCTURES II - Elastic analysis of structures; virtual work; Castigliano's theorems; slope deflection and moment distribution; computer analysis of structural systems, influence lines, column analogy, limit analysis. Departmental elective. Prerequisite(s): CEE 316.

## CEE 333. Water Resources Engr. 3 Hours

WATER RESOURCES ENGINEERING - Integrated study of the principles of water movement and management. Focus areas include hydrology, water distribution, storm water management, and waste water collection. Second semester, each year. Prerequisite(s): CEE 313.

## CEE 390. Envr Pollutn Cntrl. 3 Hours

ENVIRONMENTAL POLLUTION CONTROL - Study of environmental pollution problems relating to air, water, and land resources. Causes and effects of pollution technology for solving problems. Legal and political considerations. For juniors and seniors other than civil engineering students. Credit may not be applied toward civil engineering degree. Prerequisite(s): Some knowledge of chemistry.

## CEE 398. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## CEE 400. Prof Developmnt Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of all civil engineering seniors.

## CEE 403. Transportation Engr. 3 Hours

TRANSPORTATION ENGINEERING - Fundamentals of transportation engineering, including design, construction, maintenance, and economics of transportation facilities. Design of pavement structures and drainage systems. Prerequisite(s): CEE 214.

## CEE 408. Seminar. 0 Hours

SEMINAR - Seminar in Civil \& Environmental Engineering.

## CEE 411. Dsg-Steel Structures. 3 Hours

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. Second semester, each year. Prerequisite(s): CEE 316.

## CEE 412. Dsgn-Concrete Struc. 3 Hours

DESIGN OF CONCRETE STRUCTURES - Design and behavior of reinforced concrete slabs, beams, columns, walls, and footings subjected to tension, compression, bending, shear, and torsion. First semester, each year. Prerequisite(s): CEE 311, CEE 316.

## CEE 420. Engineering Economics. 1 Hour

ENGINEERING ECONOMICS - Basic principles and techniques of economic analysis of engineering projects. Prerequisite(s): MTH 169.

## CEE 421. Construction Engr. 3 Hours

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 contracts and bonds and legal aspects of contracting. Departmental elective.

## CEE 422. Dsgn\&Constr Prj Mgt. 3 Hours

DESIGN AND CONSTRUCTION PROJECT MANAGEMENT -
Fundamentals of project management as they relate to the design and construction professional, and the application of project management techniques to the design and construction of major projects. Departmental elective.

## CEE 425. Civil Engr Systems. 3 Hours

CIVIL ENGINEERING SYSTEMS - Analysis and evaluation of civil engineering systems using operations research tools including systems modeling, optimization and probability, and statistics. Civil engineering systems will also be examined from an economic perspective. Prerequisite(s): Junior or senior status.

## CEE 434. Water \& Waste Engr. 3 Hours

WATER AND WASTEWATER ENGINEERING - Problems of water pollution; development and design of public water supply and waste water treatment systems; legal, political, ethical, and moral considerations. First term, each year. Prerequisite(s): CHM 124. Corequisite(s): CEE 313, CEE 434L.

## CEE 434L. Watr\&Waste Engr Lab. 1 Hour

WATER AND WASTEWATER ENGINEERING LABORATORY Laboratory exercises, demonstrations, and design problems associated with water and wastewater engineering. First semester, each year. Corequisite(s): CEE 434.

## CEE 450. Civil Engr Design. 3 Hours

CIVIL ENGINEERING DESIGN - Group design of complete projects, drawing on the knowledge acquired in a spectrum of civil engineering subjects. Second semester, each year. Prerequisite(s): CEE 312, CEE 333, CEE 403, CEE 411, CEE 412, CEE 434.

## CEE 463. Hazrd Waste Treatmnt. 3 Hours

HAZARDOUS WASTE TREATMENT - The fundamental principles of the design and operation of hazardous waste control and hazardous substances remediation processes. Hazardous waste regulations, risk assessment, and management. Department Elective. Prerequisite(s): CHM 124.

## CEE 493. Honors Thesis. 3 Hours

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.

## CEE 494. Honors Thesis. 3 Hours

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. Prerequisite(s): CEE 493.

## CEE 498. Resrch\&Innov Lab. 1-6 Hours

## CEE 499. Special Problems. 1-6 Hours

SPECIAL PROBLEMS IN CIVIL ENGINEERING - Particular assignments to be arranged and approved by chairperson of the department. Departmental elective.

## Engineering Mechanics Courses

## EGM 202. Dynamics. 3 Hours

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. Each semester, each year. Prerequisite(s): EGR 201.

## EGM 303. Mechanics II. 3 Hours

MECHANICS II - 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. Each semester, each year. Prerequisite(s): EGR 201.

## EGM 304. Adv Strength of Mtls. 3 Hours

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; introduction to mechanics of composite materials. First and second terms each year. Prerequisite(s): EGM 303.

EGM 499. Special Problems. 1-6 Hours SPECIAL PROBLEMS IN ENGINEERING MECHANICS - Particular assignments to be arranged and approved by chairperson of the department.

# Electrical and Computer Engineering 

Majors:

- Bachelor of Electrical Engineering
- Bachelor of Science, Computer Engineering

Concentrations:

- Electrical Energy Systems
- Electro-Optics
- Robotics

Minors:

- Computer Systems
- Signals and Systems

The Department of Electrical and Computer Engineering offers two ABET accredited undergraduate programs leading to the Bachelor of Electrical Engineering and the Bachelor of Science in Computer Engineering. The department offers masters and doctoral degrees in electrical engineering and is closely coupled to the graduate program in electro-optics where both master's and doctoral degrees are offered. The electrical and computer engineering department offers an accelerated 5 year B.S. - M.S. program, where students completing their baccalaureate degree can attain their Master of Science in Electrical Engineering within one additional year. The department also offers an undergraduate concentration in electro-optics, in collaboration with the Physics Department and the Electro-Optics Program. An Undergraduate concentration in Robotics is available for both Electrical and Computer Engineering majors beginning in Fall 2011. A new undergraduate concentration in Electrical Engineering Systems is also available beginning in Fall 2012.

The mission of the Department of Electrical and Computer Engineering is to develop in students the skills and knowledge to learn, lead and serve in their profession and their community.

Our electrical engineering alumni will be prepared to:

1. find rewarding careers as engineering professionals. As electrical engineers they will be prepared to design and develop new products, technologies and processes that incorporate one or more of the following elements: analog and digital circuits, signals and systems, propagation and processing of signals, and control systems.
2. continue their professional education either formally, in graduate school, professional schools, or through industrial training programs; or informally, though activities such as continuing education, attendance in short courses, professional workshops and conferences.
3. exercise and further develop their skills in professional communication through activities such as project briefings, conference presentations, technical reports and manuals, and journal publications.
4. participate in activities for the betterment of society, and carry on the traditions of the University of Dayton by maintaining high ethical standards in their professional activities, and by serving their country and community through service, leadership and mentoring.

Our computer engineering alumni will be prepared to:

1. find rewarding careers as engineering professionals. As computer engineers they will be prepared to design and develop new products, technologies and processes that incorporate one or more of the following elements: analog and digital circuits, signals and systems, computer design, software development, and hardware/ software integration.
2. continue their professional education either formally, in graduate school, professional schools, or through industrial training programs; or informally, though activities such as continuing education, attendance in short courses, professional workshops and conferences.
3. exercise and further develop their skills in professional communication through activities such as project briefings, conference presentations, technical reports and manuals, and journal publications.
4. participate in activities for the betterment of society, and carry on the traditions of the University of Dayton by maintaining high ethical standards in their professional activities, and by serving their country and community through service, leadership and mentoring.

Electrical engineering is an exciting field within the engineering discipline. It offers the opportunity to enter some of the most rewarding and challenging careers available. The explosion of capabilities in the computer, communication, automotive, medical, entertainment and aerospace industries, as well as homeland security has resulted from advances in the electronics field. Electrical engineers are equipped to enter this dynamic arena as well as equally challenging and rewarding careers in the fields of electro-optics, communication, radar, signal and image processing, biomedicine, controls, robotics and instrumentation, and many more. Electrical engineers work in all phases of technological programs. They are involved from the conception of the basic ideas through design, fabrication, verification, manufacturing, and marketing of the final product.

Computer engineering represents perhaps the most sought-after professional component of an engineering team which develops the technological possibilities inherent in the design, construction, and operation of computer systems. The computer engineer performs a wide variety of tasks involving hardware, software, peripherals, computercontrolled systems, and hardware-software integration, as well as computer applications in the multitude of areas listed in the previous paragraph.
Both electrical engineering and computer engineering are broad-based engineering disciplines that provide for a wide range of career choices within the engineering field as well as providing an excellent basis for careers in such diverse areas as business, law, and medicine.
The electrical engineering curriculum is designed to provide an understanding of basic electrical engineering principles with emphasis on the development of problem solving skills. The computer engineering curriculum draws from software courses taken in computer science and hardware related courses taken from Electrical and Computer Engineering, culminating in the integration of hardware and software in systems design. An extensive laboratory experience is integrated with the classroom work to assure that the student develops a working knowledge of the fundamentals. Upper level courses integrate the knowledge base with current technology and computational tools resulting in a graduate capable of making a contribution to the engineering profession by either entering the work force or pursuing a graduate education.

## Faculty

Guru Subramanyam, Chairperson

Professors Emeriti: Evers, Kee, Rogers, Scarpino, Thiele, Williamson Professors: Asari, Banerjee, Chatterjee, Duncan, Hardie, Haus, Moon, Sarangan, Subramanyam, Vorontsov, Weber, Zhan
Associate Professors: Daniels, Guliants, Loomis, Ordonez, Penno, Taha, Zhan
Assistant Professors: Balster, Hirakawa
Adjunct Professors: Barrera, Malas, Coutu

## Bachelor of Electrical Engineering (ele)

| CHM 123 | General Chemistry | 3 |
| :---: | :---: | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| CPS 150 | Algorthm\&Progrm I | 4 |
| ECE 101 | Intro to Elec Engr (2 semesters) | 0 |
| ECE 200 | Prof Development Sem (2 semesters) | 0 |
| ECE 201L | Circuit Anlys Lab | 1 |
| ECE 203 | Intro Matlab Prog | 1 |
| $\begin{aligned} & \text { ECE } 204 \\ & \& 204 \mathrm{~L} \end{aligned}$ | Electronic Devices and Electrnc Devices Lab | 4 |
| $\begin{aligned} & \text { ECE } 215 \\ & \& 215 L \end{aligned}$ | Intro-Digtl Systms and Digital Systems Lab | 4 |
| $\begin{aligned} & \text { ECE } 303 \\ & \& 303 L \end{aligned}$ | Signals \& Sytems and Signals \& Systems Lab | 4 |
| $\begin{aligned} & \text { ECE } 304 \\ & \& 304 \mathrm{~L} \end{aligned}$ | Electrnc Systems and Electrnc Systems Lab | 4 |
| $\begin{aligned} & \text { ECE } 314 \\ & \& 314 \mathrm{~L} \end{aligned}$ | Fund-Comptr Arch and Fund-Comptr Arch Lab | 4 |
| ECE 332 | Electromagnetics | 3 |
| ECE 333 | Appl Electromagnetcs | 3 |
| ECE 334 | Discrete Singnls\&Sys | 3 |
| ECE 340 | Engr Prblty\&Rndm Prc | 3 |
| $\begin{aligned} & \text { ECE } 401 \\ & \& 401 \mathrm{~L} \end{aligned}$ | Communictn Systems and Communicatn Sys Lab | 4 |
| ECE 415 | Control Systems | 3 |
| ECE 431L | Multdsply Design I | 1 |
| ECE 432L | Mutdsply Design II | 3 |
| ECE 433 | Proj Mangmt\&Innovtn | 1 |
| EGR 100 | Enrichment Workshop (2 semesters) | 0 |
| EGR 103 | Engineering Innovatn | 2 |
| EGR 201 | Engr Mechanics | 3 |
| EGR 202 | Engr Thermodynamics | 3 |
| EGR 203 | Electrcl \& Elctrnc Crt | 3 |
| ENG 100 <br> \& ENG 200 <br> or ENG 200H | Writing Seminar I and Writing Seminar II Writing Seminar II | 6 |
| HST 103 or HST 198 | West and World HST Scholars Sem | 3 |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |
| PHL 103 | Intro To Philosophy | 3 |


| PHL 316 Engineering Ethics <br> or PHL 319 Information Ethics <br> PHY 206 Gen Physics I Mech <br> PHY 210L Gen Physics Lab I <br> PHY 232 Physics of Waves <br> REL 103 Intro to Religion <br> General Education electives  |
| :--- | :--- |
| Technical electives ${ }^{1}$ |
| Total Hours |
| 1 Select from list approved by the Department of Electrica |
| $\quad$ Computer Engineering. |
| Bachelor of Science in Computer |
| Engineering (cpe) |

CHM 123 General Chemistry 3
CMM 110 Group Dec-Making 1

CMM 111 Inform Public Sp 1
$\begin{array}{ll}\text { or CMM 112 } & \text { Persuasive Public } \mathrm{Sp} \\ \text { CMM 113 } & \text { Interviewing }\end{array}$
CPS $150 \quad$ Algorthm\&Progrm I 4
CPS 151 Algorthm\&Progrm II 4
CPS 346 Operating Systems I 3
CPS 350 Data Struct\&Algorthm 3
CPS 444 Systms Progrmng I 3
ECE 101 Intro to Elec Engr (2 semesters) 0
ECE $200 \quad$ Prof Development Sem (2 semesters) 0
ECE 201L Circuit Anlys Lab 1
ECE 203 Intro Matlab Prog 1
ECE $204 \quad$ Electronic Devices 4
\& 204L and Electrnc Devices Lab
ECE $215 \quad$ Intro-Digtl Systms 4
$\begin{array}{ll}\text { \& 215L } & \text { and Digital Systems Lab } \\ \text { ECE 303 } & \text { Signals \& Sytems }\end{array}$
$\begin{array}{lll}\& 303 \mathrm{~L} & \text { and Signals \& Systems Lab } & \\ \text { ECE 304 } & \text { Electrnc Systems } & 4\end{array}$
$\begin{array}{ll}\text { \& 304L } & \text { and Electrnc Systems Lab } \\ \text { ECE } 314 & \text { Fund-Comptr Arch }\end{array}$
\& 314L and Fund-Comptr Arch Lab
ECE 334 Discrete Singnls\&Sys 3
ECE 340 Engr Prblty\&Rndm Prc 3
ECE 431L Multdsply Design I 1
ECE 432L Mutdsply Design II 3
ECE $433 \quad$ Proj Mangmt\&Innovtn 1
ECE 444 Adv Digital Design 3
ECE 449 Computr Systms Engr 3
EGR 100 Enrichment Workshop (2 semesters) 0
EGR 103 Engineering Innovatn 2
EGR 201 Engr Mechanics 3
EGR 202 Engr Thermodynamics 3
EGR $203 \quad$ Electrcl \& Elctrnc Crt 3
ENG 100 Writing Seminar I 6
\& ENG 200 and Writing Seminar II

| or ENG 200H | Writing Seminar II |  |
| :--- | :--- | :---: |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| MTH 310 | Lin Alg \& Matrices | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHL 319 | Information Ethics | 3 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 210L | Gen Physics Lab I | 1 |
| PHY 232 | Physics of Waves | 3 |
| REL 103 | Intro to Religion | 3 |
| Computer Science elective | 3 |  |
| General Education electives | 12 |  |
| Technical electives ${ }^{1}$ | 6 |  |
| Total Hours |  | 137 |

1 Select from list approved by the Department of Electrical and Computer Engineering.

## Electrical Energy Systems Concentration (EES)

The Electrical Energy Systems Concentration will prepare our Electrical and Computer Engineering students in all aspects of Electrical Energy Systems including generation, transmission, distribution, utilization, storage, as well as enabling technologies for the smart grid.

Required ECE courses:

| ECE 316 | Intro Elec Enrgy Sys | 3 |
| :--- | :--- | :--- |
| or ECE 499 | Special Problems |  |
| ECE 414 | Electromech Systems | 3 |

ECE $471 \quad$ Pwr Sys Smart Grid 3
Select one course from: 3

| ECE 472 | Smart Grid Tech |  |
| ---: | :--- | ---: |
| MEE 473 | Renewable Energy Sys |  |
| otal Hours |  | 12 |

## Concentration in Electro-Optics (eop)

The departments of Electrical \& Computer Engineering and Physics, with the support of the Electro-Optics Graduate Program at University of Dayton, offers an undergraduate concentration in Electro-Optics. This multidisciplinary concentration is open to Electrical Engineering, Computer Engineering and Physics undergraduates with appropriate prerequisite background. This concentration will enable students to pursue new coop opportunities and possible careers in photonics, and better prepare students to pursue new coop opportunities and possible careers in photonics and better prepare students who wish to pursue graduate degrees in the area of optics. All the courses listed below are approved as free technical electives for ECE undergraduate students.

| ECE 443 | Intro-Electro Optics | 3 |
| :--- | :--- | :--- |
| PHY 404 | Physical Optics | 3 |
| Select two courses from: | 6 |  |

[^1]| EOP 502 | Opticl Radtn\&Matter |
| :--- | :--- |
| EOP 505 | Introductn-Lasers |
| EOP 506/ECE | Electro-Optc Dev\&Sys |
| 573 |  |
| EOP 513/ECE | Lin Sys\&Fourier Opt |
| 572 |  |

EOP 514/ECE Guided-Wave Optics
574
Total Hours 12

## Concentration in Robotics (rob)

| Robotics (CPE Majors) | 15 |  |
| :--- | :--- | :---: |
| ECE 415 | Control Systems | 3 |
| ECE 416 | Intro to Robotics | 3 |
| ECE 447 | Digitl contrl Systms | 6 |
| Select two courses from: |  |  |
| CPS 480 | Artificl Intellgnce |  |
| ECE 414 | Electromech Systems |  |
| ECE 444 | Adv Digital Design |  |
| ECE 445 | Signal Processing |  |
| MEE 321 | Theory of Machines |  |
| MEE 434 | Mechatronics |  |
| MEE 438 | Robotcs\&Flexble Manf |  |

Robotics (ELE Majors) 12

ECE 416 Intro to Robotics 3
ECE 447 Digitl contrl Systms 3
Select two courses from: 6
CPS $480 \quad$ Artificl Intellgnce
ECE 414 Electromech Systems
ECE 444 Adv Digital Design
ECE 445 Signal Processing
MEE 321 Theory of Machines
MEE 434 Mechatronics
MEE 438 Robotcs\&Flexble Manf

## Minor in Computer Systems (cos)

This minor is open to chemical, civil, and mechanical engineering majors, and other students with appropriate prerequisite background who receive permission from the ECE Department Chair. The program builds strength in the area of computer systems and digital design, with emphasis on computer hardware.

| Computer Systems (non-MEE majors) | 16 |  |
| :--- | :--- | :---: |
| CPS 150 | Algorthm\&Progrm I | 4 |
| or ECE 444 | Adv Digital Design |  |
| ECE 201L | Circuit Anlys Lab | 1 |
| ECE 215 | Intro-Digtl Systms | 4 |
| \& 215L | and Digital Systems Lab |  |
| ECE 314 | Fund-Comptr Arch | 4 |
| \& 314L | and Fund-Comptr Arch Lab |  |
| EGR 203 | Electrcl \& Elctrnc Crt | 3 |
| Computer Systems (MEE majors) | 15 |  |
| CPS 150 | Algorthm\&Progrm I (or equivalent) | 4 |
| ECE 215 | Intro-Digtl Systms | 4 |
| \& 215L | and Digital Systems Lab |  |


| ECE 314 | Fund-Comptr Arch | 4 |
| :--- | :--- | :--- |
| \& 314L | and Fund-Comptr Arch Lab |  |
| ECE 444 | Adv Digital Design | 3 |

## Minor in Signals and Systems (sas)

This minor is open to chemical, civil, and mechanical engineering majors, and other students with appropriate prerequisite background who receive permission from the ECE Department Chair. The program provides the essential background in signals and systems theory including continuous and discrete systems. An advanced course is selected by the students to allow them to specialize in controls or signal processing.

| ECE 201L | Circuit Anlys Lab | 1 |
| :--- | :--- | ---: |
| ECE 203 | Intro Matlab Prog | 1 |
| ECE 303 | Signals \& Sytems | 4 |
| \& 303L | and Signals \& Systems Lab |  |
| ECE 334 | Discrete Singnls\&Sys | 3 |
| ECE 415 | Control Systems | 3 |
| or ECE 445 | Signal Processing |  |
| EGR 203 | Electrcl \& Elctrnc Crt | 3 |
| Total Hours |  | 15 |

## Courses

## ECE 101. Intro to Elec Engr. 0 Hours

INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING Introduction to electrical and computer engineering faculty, facilities, and curriculum. Career opportunities in electrical and computer engineering and areas of specialization are discussed.

## ECE 198. Mltdspy Res\&Innv Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis, and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.


## ECE 200. Prof Development Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

## ECE 201L. Circuit Anlys Lab. 1 Hour

CIRCUIT ANALYSIS LABORATORY - Laboratory course stressing experimental techniques, laboratory reporting, safety, and instrumentation. Experimental investigation of basic steady-state and transient circuits. Corequisite(s): ECE 201 or EGR 203.

## ECE 203. Intro Matlab Prog. 1 Hour

INTRODUCTION TO MATLAB PROGRAMMING MATLAB - system and development environment, vector and matrix operations using MATLAB, linear algebra and calculus using MATLAB, MATLAB graphics, flow control, symbolic math toolbox. Prerequisite(s): (CPS 132 or CPS 150) or equivalent.

## ECE 204. Electronic Devices. 3 Hours

ELECTRONIC DEVICES - Study of the terminal characteristics of electronic devices and basic single stage amplifier configurations using bipolar junction transistors and field-effect transistors. Analysis of the devices includes a qualitative physical description, volt-ampere curves, and the development of small- and large-signal equivalent circuit models. Prerequisite(s): EGR 203. Corequisite(s): ECE 204L.

## ECE 204L. Electrnc Devices Lab. 1 Hour

ELECTRONIC DEVICES LABORATORY - Laboratory investigation of electronic devices: diodes, bipolar junction transistors, field-effect transistors and operational amplifiers. Corequisite(s): ECE 204.

## ECE 215. Intro-Digtl Systms. 3 Hours

INTRODUCTION TO DIGITAL SYSTEMS - Introduction to binary systems, logic circuits, Boolean algebra, simplification methods, combinational circuits and networks, programmable logic devices, flip flops, registers, counters, memory elements, and analysis and design of sequential circuits. Prerequisite(s): EGR 203. Corequisite(s): ECE 215L.

## ECE 215L. Digital Systems Lab. 1 Hour

DIGITAL SYSTEMS LABORATORY - Laboratory investigation of digital logic circuits and systems covered in ECE 215. Logic gate characteristics; combinational logic design and analysis; latches and flip-flops; synchronous and asynchronous sequential logic; simple digital systems. Experiments include design and analysis of digital systems using breadboarding, FPGA boards, modeling and simulation tools, hardware description languages, and logic synthesis tools. Prerequisite(s): ECE 201, ECE 201L. Corequisite(s): ECE 215.

## ECE 298. Mltdspy Res\&Innv Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis, and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.


## ECE 303. Signals \& Sytems. 3 Hours

SIGNALS AND SYSTEMS - Mathematical framework associated with the analysis of linear systems including signal representation by orthogonal functions, convolution, Fourier and Laplace analysis, and frequency response of circuits and systems. Prerequisite(s): ECE 204; MTH 218. Corequisite(s): ECE 303L.

## ECE 303L. Signals \& Systems Lab. 1 Hour

SIGNALS AND SYSTEMS LABORATORY - Laboratory investigation of signals and systems including signal decomposition, system impulse response, convolution, frequency analysis of systems, and filter design and realization. Prerequisite(s): ECE 204. Corequisite(s): ECE 303.

## ECE 304. Electrnc Systems. 3 Hours

ELECTRONIC SYSTEMS - Study of cascaded amplifiers, feedback amplifiers, linear integrated circuits, and oscillators including steady state analysis and analysis of frequency response. Prerequisite(s): ECE 303. Corequisite(s): ECE 304L.

## ECE 304L. Electrnc Systems Lab. 1 Hour

ELECTRONIC SYSTEMS LABORATORY - Design, construction and verification of multistage amplifiers, differential amplifiers, feedback amplifiers, passive and active filters, and oscillators. Prerequisite(s): ECE 303. Corequisite(s): ECE 304.

## ECE 314. Fund-Comptr Arch. 3 Hours

FUNDAMENTALS OF COMPUTER ARCHITECTURE - Study of computer systems organization, representation of data and instructions, instruction set architecture, processor and control units, memory devices and hierarchy, I/O devices and interfacing peripherals, high- to low-level language mapping, system simulation and implementation, applications and practical problems. Prerequisite(s): CPS 150; ECE 215. Corequisite(s): ECE 314L.

## ECE 314L. Fund-Comptr Arch Lab. 1 Hour

FUNDAMENTALS OF COMPUTER ARCHITECTURE LABORATORY

- Laboratory investigation of digital computer architecture covered in ECE 314. Computer sub-systems such as central processing units, control units, I/O units, and hardware/software interfaces will be experimentally considered. Simulation and implementation will be used to study applications and practical problems. Prerequisite(s): ECE 215. Corequisite(s): ECE 314.


## ECE 316. Intro Elec Enrgy Sys. 3 Hours

INTRODUCTION TO ELECTRICAL ENERGY SYSTEMS A - broad introduction to electric energy concepts. Generation, transmission, distribution, and utilization of electric energy. Renewable energy, three phase systems, transformers, power electronics, motors and generators. Contemporary topics. Prerequisite(s): EGR 203 or equivalent.

## ECE 332. Electromagnetics. 3 Hours

ELECTROMAGNETICS - Study of vector calculus, electro- and magnetostatics, Maxwell's equations, and electromagnetic plane waves and their reflection and transmission from discontinuities. Prerequisite(s): PHY 232.

## ECE 333. Appl Electromagnetcs. 3 Hours

APPLIED ELECTROMAGNETICS - Electromagnetic theory applied to problems in the areas of waveguides, radiation, electro-optics and electromagnetic interference and electromagnetic compatibility. Prerequisite(s): ECE 332.

## ECE 334. Discrete Singnls\&Sys. 3 Hours

DISCRETE SIGNALS AND SYSTEMS - Introduction to discrete signals and systems including sampling and reconstruction of continuous signals, digital filters, frequency analysis, the z-transform, and the discrete Fourier transform. Prerequisite(s): ECE 303.

## ECE 340. Engr Prblty\&Rndm Prc. 3 Hours

ENGINEERING PROBABILITY AND RANDOM PROCESSES -
Axiomatic probability, derived probability relationships, conditional probability, statistical independence, total probability and Bayes' Theorem, counting techniques, common random variables and their distribution functions, transformations of random variables, moments, autocorrelation, power spectral density, cross correlation and covariance, random processes through linear and nonlinear systems, linear regression, and engineering decision strategies. Prerequisite(s): ECE 303; MTH 218.

## ECE 398. Mltdspy Res\&Innv Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY - Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis, and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## ECE 401. Communictn Systems. 3 Hours

COMMUNICATION SYSTEMS - Study of amplitude, angle, pulse, and digital communication systems including generation, detection, and analysis of modulated signals and power, bandwidth, and noise considerations. Prerequisite(s): ECE 304, 340. Corequisite(s): ECE 401L.

## ECE 401L. Communicatn Sys Lab. 1 Hour

COMMUNICATION SYSTEMS LABORATORY - Design, fabrication, and laboratory investigation of modulators, detectors, filters, and associated communication components and systems. Prerequisite(s): ECE 304. Corequisite(s): ECE 401.

## ECE 414. Electromech Systems. 3 Hours

ELECTROMECHANICAL DEVICES - Properties and theory of electromechanical devices: nonlinear electro-magnetic actuators; rotating machine analysis; field and circuit concepts and direct current, synchronous, and induction machines: special-purpose machines and fractional horsepower machines. Prerequisite(s): ECE 316 or equivalent.

## ECE 415. Control Systems. 3 Hours

CONTROL SYSTEMS - Study of mathematical models for control systems and analysis of performance characteristics and stability. Design topics include pole-placement, root locus, and frequency domain techniques. Prerequisite(s): ECE 303.

## ECE 416. Intro to Robotics. 3 Hours

INTRODUCTION TO INDUSTRIAL ROBOTIC MANIPULATORS - Topics include homogeneous transformations, direct and inverse kinematics, trajectory generation, and selected topics of robot vision. Prerequisite(s): ECE 303.

## ECE 431L. Multdsply Design I. 1 Hour

MULTIDISCIPLINARY DESIGN I-Multidisciplinary engineering design projects and problems. Introduction to product development using the Product Realization Process. Concentration on proposals, specifications, conceptualization and decision analysis. Projects result in final design and prototyping in the follow-on course. Prerequisite(s): ECE 304, ECE 314.

## ECE 432L. Mutdsply Design II. 3 Hours

MULTIDISCIPLINARY DESIGN II - Combination of lecture and laboratory experiences. The focus of the lecture is on project management aspects of engineering design, including communication, collaboration, project tracking methods, cost estimating, overhead, direct labor costs, time value of money, depreciation, and return on investment. The focus of the lab is on a multidisciplinary team design project. Detailed evaluation of the Product Realization Process (PRP), including specifications, innovation, conceptualization, decision analysis, embodiment design, final design and prototyping. Analysis of the design criteria for safety, ergonomic, environmental, financial, ethical, and socio-political impact. Periodic oral and status reports. Culminates in a comprehensive written report and oral presentation. Prerequisite(s): CPE majors: ECE 340, ECE 431L, ECE 444; ELE majors: ECE 340, ECE 431L, (ECE 401 or ECE 415).

## ECE 433. Proj Mangmt\&Innovtn. 1 Hour

PROJECT MANAGEMENT AND INNOVATION - Introduces students and teams to project management, entrepreneurship, and innovation. Topics include project management,cost estimating, time value of money, patent law, marketing, finance, and business plan development. Prerequisite(s): Junior status.

## ECE 440. Phycical Electronics. 3 Hours

PHYSICAL ELECTRONICS - Introduction to wave mechanics, electron ballistics, theory of metals and semiconductors, electron emission, space charge flow, and modern electron devices. Prerequisite(s): MTH 219; PHY 232.

## ECE 441. Intgrtd Circuit Elct. 3 Hours

INTEGRATED CIRCUIT ELECTRONICS - Integrated circuit design, construction and verification including the study of biasing, multistage differential and analog power amplification, and computer assisted design tools for "on-chip" design and layout. Prerequisite(s): ECE 304.

## ECE 442. Engr Electromagntes. 3 Hours

ENGINEERING ELECTROMAGNETICS - Processing Maxwell's equations and applying the predictions to the analysis and design of engineering systems that make use of electromagnetic energy from ELF through optical frequencies. Topics include propagation, radiation, interactions with matter, guided waves, and antenna fundamentals. Prerequisite(s): ECE 333.

## ECE 443. Intro-Electro Optics. 3 Hours

INTRODUCTION TO ELECTRO-OPTICS - Introductory overview of electro-optics starting with Maxwell's equations and leading to lasers, holography, and other timely applications. Prerequisite(s): ECE 332.

## ECE 444. Adv Digital Design. 3 Hours

ADVANCED DIGITAL DESIGN - Systems approach to digital design including: structured top-down development process using simple and complex logic modules from various logic families; practical aspects of the design, construction, and verification of digital subsystems; application of microcomputer and/or controller as a flexible logic device; real-time embedded systems design; and the use of HDL tools and simulation. Prerequisite(s): ECE 314.

## ECE 445. Signal Processing. 3 Hours

SIGNAL PROCESSING - Study of 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(s): ECE 334.

## ECE 446. Microelctronc Sys Ds. 3 Hours

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. Prerequisite(s): ECE 304.

## ECE 447. Digitl contrl Systms. 3 Hours

DIGITAL CONTROL SYSTEMS - Analysis and synthesis of feedback control systems including digital compensators. Topics include performance and stability analysis, regulator and servomechanism design using time and frequency domain methods, and digital implementation case studies. Prerequisite(s): ECE 415; ECE 334 or equivalent.

## ECE 448. Fibr Optc Communictn. 3 Hours

FIBER OPTIC COMMUNICATIONS - General light guidance principles; ray optics; dispersion; single mode, multimode, and graded index fibers; basic laser and LED source principles; photodetectors; error probability in digital optical systems; rise time analysis; loss budget analysis; local area networks and long haul communication links. Prerequisite(s): ECE 333 Corequisite(s): ECE 401.

## ECE 449. Computr Systms Engr. 3 Hours

COMPUTER SYSTEMS ENGINEERING - An introduction to advanced computer architecture and computer systems design. Topics include: exploration of principle architecture features of modern computers, pipelining, memory hierarchy, I/O devices, interconnection networks, introduction to parallel and multiprocessor systems, and the use of hardware description languages (HDLs) in system implementation. Prerequisite(s): ECE 444; (CPS 346 or permission of instructor).

## ECE 450L. Projects Laboratory. 1-3 Hours

PROJECTS LABORATORY - Project-oriented laboratory applying engineering skills in the design, development, and demonstration of electrical and electronic systems. Prerequisite(s): Permission of project advisor.

## ECE 471. Pwr Sys Smart Grid. 3 Hours

CONTEMPORARY POWER SYSTEMS AND THE SMART GRID Introduction to electrical power systems; generation, transmission and utilization; power system analysis; power system control; energy management; and an introduction to smart grid technologies. Prerequisites(s): ECE 316 or equivalent.

## ECE 472. Smart Grid Tech. 3 Hours

SMART GRID TECHNOLOGIES - An introductory study of enabling technologies and energy issues necessary for full realizaton of the Smart Grid. Course topics vary. This course can be taken multiple times. Prerequisite(s): ECE 471 or equivalent.

## ECE 493. Honors Thesis. 3 Hours

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.

## ECE 494. Honors Thesis. 3 Hours

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. Prerequisite(s): ECE 493.

## ECE 498. MItdspy Res\&Innv Lab. 1-6 Hours

MULTIDISCIPLINARY RESEARCH AND INNOVATION LABORATORY

- Students participate in 1.) selection and design, 2.) investigation and data collection, 3.) analysis, and 4.) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

ECE 499. Special Problems. 1-6 Hours
SPECIAL PROBLEMS IN ELECTRICAL AND COMPUTER
ENGINEERING - Particular assignments to be arranged and approved by the department chairperson.

## Engineering Management

Minors:

- Engineering Management
- Operations Engineering


## Minor in Engineering Management (enm)

This twelve credit hour minor is open to all engineering and engineering technology majors. Completion of this minor will provide the student with understanding of basic concepts relevant to the management of engineering operations. Students who anticipate moving from technical to managerial positions during their careers may wish to consider this minor.

| ENM 505 | Mgt of Engr Systms | 3 |
| :---: | :---: | :---: |
| ENM 530 | Engineering Economy | 3 |
| or ISE 430 | Engineering Economy |  |
| Select two courses from: |  | 6 |
| ENM 500 | Prob\&Stat for Engrs |  |
| ENM 515 | Human Factors Engr |  |
| ENM 534 | Decision Making |  |
| ENM 539 | Sys Engr/Prjct Mgmt |  |
| ENM 560 | Quality Assurance |  |
| ENM 565 | Reliability Engr I |  |
| ENM 582 | Engr Organizatnl Dev |  |
| ISE 300 | Prob \& Stat Egrs |  |
| ISE 421 | Intro to OPS Rsrch ${ }^{1}$ |  |
| ISE 455 | System Dynamics |  |
| ISE 460 | Quality Assurance |  |
| ISE 465 | Reliablty\&Maintnblty |  |
| MSC 521 | Intro to OPS Rsrch |  |
| MSC 555 | System Dynamics I |  |
| MSC 572 | System Simulation |  |
| Total Hours |  | 12 |
| 1 ENM 500 | ISE 300 or MTH 367) is |  |

## Minor in Operations Engineering (ope)

This twelve hour minor is open to all engineering and engineering technology majors. Completion of this minor will provide the student with a strong foundation in the analytical tools needed to plan, design, optimize, and manage complex engineering operations. Students who
anticipate moving into problem-solving and decision-support roles during their engineering careers may wish to consider this minor.

| MTH 367 | Statistical Meth I | 3 |
| :---: | :---: | :---: |
| ENM 500 | Prob\&Stat for Engrs | 3 |
| or ISE 300 | Prob \& Stat Egrs |  |
| ISE 421 | Intro to OPS Rsrch ${ }^{1}$ | 3 |
| or MSC 521 | Intro to OPS Rsrch |  |
| Select one course from: |  | 3 |
| ENM 560 | Quality Assurance ${ }^{2}$ |  |
| ENM 561 | Dsgn \& Analy Expr |  |
| ENM 565 | Reliability Engr I |  |
| ISE 460 | Quality Assurance |  |
| MSC 572 | System Simulation |  |
| Total Hours |  | 12 |

1 ENM 500 (or ISE 300 or MTH 367) is a corequisite.
2 ENM 500 (or ISE 300 or MTH 367) is a prerequisite.

## Engineering Technology

Majors:

- Bachelor of Science, Electronic and Computer Engineering Technology
- Bachelor of Science, Industrial Engineering Technology
- Bachelor of Science, Global Manufacturing Systems Engineering Technology
- Bachelor of Science, Mechanical Engineering Technology

Minors:

- Electronic and Computer Engineering Technology
- Industrial Engineering Technology
- Quality Assurance
- Global Manufacturing Systems Engineering Technology
- Mechanical Engineering Technology
- Automotive Systems
- Engineering Technology
- Industrial Automation and Applied Robotic Systems
- Integrated Arts and Technology
- Sustainable Manufacturing

The School of Engineering also offers a Bachelor of Science in Engineering Technology. The programs in which the degree is offered are electronic and computer engineering technology, global manufacturing systems engineering technology, industrial engineering technology, and mechanical engineering technology. The engineering technologist is usually involved in the design, performance evaluation, service and sales of products, equipment, and manufacturing systems or the management of these activities. The management of process operations and plant facilities are also important career paths.

The engineering technology programs provide: (1) specialized technical courses that emphasize rational thinking and the application of engineering and scientific principles to the practical solution of technological problems; (2) courses in applied mathematics and science sufficient to support the technical courses and to prepare the student for future growth; and (3) education to prepare students to communicate
intelligently and to take places in society as responsible, humane, complete professionals.

The University of Dayton engineering technology programs prepare graduates who:

- are competent and productive in the practice of both the technical and communication aspects of their profession;
- demonstrate ethical and professional standards of conduct
- exhibit leadership qualities as appropriate for the practice of their profession;
- are involved in service activities that benefit their profession and their community; and
- are engaged in continuing professional development.


## Electronic and Computer Engineering Technology

The Electronic and Computer Engineering Technology Program (ECT) prepares students for careers in the electronics and computer fields. The ECT curriculum, while including a strong emphasis on computers, centers on applied engineering topics in circuit analysis, analog and digital electronic design, digital communications, digital circuits, microprocessors, software and data acquisition instrumentation. The graduate is prepared to work in industry at a variety of tasks including analog and digital design, microprocessor hardware and software applications, electronic controls, automation, engineering sales and support, product design and development, and data communications. The curricula provide the strong foundation in the basic principles necessary to support any future career studies or development as dictated by changing technology or career roles.

## Faculty

Scott Schneider, Interim Chairperson of Department of Engineering Technology
Professors Emeriti: Farren, Hanneman, Hazen
Professor: Segalewitz
Associate Professors: Globig, Schneider

## Bachelor of Science with a major in Electronic and Computer Engineering Technology (ECT)

| CHM 123 | General Chemistry |  |
| :--- | :--- | ---: |
| \& 123L | and Gen Chemistry Lab | 4 |
| CMM 110 | Group Dec-Making |  |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp | 1 |
| CMM 113 | Interviewing | 1 |
| ECT 110 | Electrcl Circuits I | 3 |
| ECT 110L | Elec Circuits I Lab | 1 |
| ECT 120 | Elec Circuits II | 3 |
| ECT 206 | Electron Devices I | 4 |
| \& 206L | and Electrn Devices I Lb |  |
| ECT 224 | Digtl Comptr Fund | 4 |
| \& 224L | and Digital Comptr Lab |  |
| ECT 306 | Electron Devices II | 4 |
| \& 306L | and Elect Devices II Lab |  |
| ECT 357 | Microprocessors I | 3 |
| ECT 358 | Microprocessors II | 4 |
| \& 358L | and Microprocssrs II Lab |  |


| ECT 361 | Programmng Strctrs | 3 |
| :---: | :---: | :---: |
| ECT 362 | Concp\&Appl-COS | 3 |
| ECT 408 | Data Acquis\&Msrmnts | 2 |
| ECT 452 | Feedback Controls | 3 |
| ECT 465 | Dgtl Data Communctns | 3 |
| ECT 466 | Microcmptr Architect | 3 |
| ECT 490 | Senior Project | 3 |
| EGR 103 | Engineering Innovatn | 2 |
| ENG 100 <br> \& ENG 200 <br> or ENG 200 H | Writing Seminar I and Writing Seminar II ${ }^{1}$ Writing Seminar II | 6 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| IET 316 | Quantitatv Analysis | 3 |
| IET 317 | Industrl Econ\&Analys | 3 |
| IET 323 | Project Management | 3 |
| MCT 110L | Tech Drawing \& Cad | 2 |
| MCT 220 | Statics \& Dynamics | 3 |
| MFG 431 | Controls-Ind Auto | 3 |
| MTH 137 | Calc I with Review | 4 |
| MTH 138 | Calc I with Review | 4 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 201 <br> \& 201L | General Physics and General Physics Lab | 4 |
| REL 103 | Intro to Religion | 3 |
| SET 100 | First Year Seminar (2 semesters) | 0 |
| SET 101 | Enrichment Workshop (2 semesters) | 0 |
| SET 153L | Tech Computatn Lab | 1 |
| SET 200 | Professional Dev Sem | 0 |
| SET 200 | Professional Dev Sem | 0 |
| SET 499 | Seminar | 1 |
| General Education electives |  | 15 |
| Technical electives ${ }^{2}$ |  | 12 |
| Total Hours |  | 131 |

1 The University's general reading and writing competency requirements are satisfied by completing ENG 100 and ENG 200, or ENG 200 H with a grade of C- or higher. Students admitted to the University Honors program and students with sufficiently high verbal scores on the SAT and ACT are placed in ENG 200H. ENG 200H is a one-semester course which satisfies the University requirement. Students who are placed in ENG 200 H do not receive credit for ENG 100 but are free to take elective course work in place of the waived first semester of composition.
2 Select from list approved by the Department of Engineering Technology.

## Minor in Electronic and Computer Engineering Technology (ECT)

This minor provides a concentration in the electronic and computer field that will compliment the student's major program of study. It is open to all engineering technology majors except electronic or computer engineering
technology. It is also available for other majors within the University if certain prerequisites have been met.

| ECT 120 | Elec Circuits II | 3 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { ECT } 224 \\ & \& 224 \mathrm{~L} \end{aligned}$ | Digtl Comptr Fund and Digital Comptr Lab | 4 |
| Select one emphasis from: ${ }^{\text {1,2 }}$ |  | 6-8 |
| Analog Devices Emphasis |  |  |
| $\text { ECT } 206$ $\& 206 \mathrm{~L}$ | Electron Devices I and Electrn Devices I Lb |  |
| ECT 306 <br> \& 306L | Electron Devices II and Elect Devices II Lab |  |
| Microprocessor Emphasis |  |  |
| ECT 357 | Microprocessors I |  |
| $\begin{aligned} & \text { ECT } 358 \\ & \& 358 \mathrm{~L} \end{aligned}$ | Microprocessors II and Microprocssrs II Lab |  |
| Software Emphasis |  |  |
| ECT 361 | Programmng Strctrs |  |
| ECT 362 | Concp\&Appl-COS |  |
| Total Hours |  | 13-15 |
| 1 Courses cannot be already required for student's major. <br> 2 Accompanying laboratories are recommended but not required. |  |  |
| Industrial Engineering Technology |  |  |

The Industrial Engineering Technology Program has as its objective providing specialized education to prepare students for management and technical staff positions in manufacturing and service organizations such as health care, banking, transportation, food service, and government. Graduates may be involved in the economic selection and location of equipment, the planning of work methods and expected output, quality assurance, facilities layout, and scheduling and controlling the flow of materials. The curriculum emphasizes courses in work measurement, planning and control of lean processes, human factors, safety, facilities layout design and simulation, economic and financial analysis, statistical process control, management of projects and global technical organizations, cost estimating and cost control, and mathematical decision-making.

## Faculty

Scott Schneider, Interim Chairperson of the Department of Engineering Technology
Charlie Edmonson, Program Coordinator
Professors: Edmonson, Summers, Untener
Associate Professors: Blust, Falkowski, Globig
Adjunct Professor: R. Reynolds

## Bachelor of Science with a major in Industrial Engineering Technology (let)

| CHM 123 | General Chemistry <br> and Gen Chemistry Lab | 4 |
| :--- | :--- | ---: |
| \& 123L | Group Dec-Making |  |
| CMM 110 | Inform Public Sp | 1 |
| CMM 111 |  |  |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| ECT 110 | Electrcl Circuits I | 4 |
| \& 110L | and Elec Circuits I Lab |  |
| EGR 103 | Engineering Innovatn | 2 |



1 The University's general reading and writing competency requirements are satisfied by completing ENG 100 and ENG 200, or ENG 200 H with a grade of C- or higher. Students admitted to the University Honors program and students with sufficiently high verbal scores on the SAT and ACT are placed in ENG 200H. ENG 200H is a one-semester course which satisfies the University requirement. Students who are placed in ENG 200 H do not receive credits for ENG 100 but are free to take elective course work in place of the waived first semester of composition.
2 Select from list approved by the Department of Engineering Technology.

## Minor in Industrial Engineering Technology (iet)

This minor is open to all majors except industrial engineering technology. The program provides a concentration in the industrial field that will complement the student's major field of study. All prerequisites and corequisites must be followed.

Choose four courses from: ${ }^{1}$

| IET 230 | Work Measurement |
| :--- | :--- |
| IET 317 | Industrl Econ\&Analys |
| IET 318 | Statistcl Proc Contr |
| IET 319 | Quality Improv Mthds |
| IET 320 | Qualty Assur Technqs |
| IET 321 | Quality Management |
| IET 332 | Facilities Layout Ds |
| IET 408 | Lean Mgt Methods |
| IET 415 | Mgt of Glbal Tch Org |
| IET 418 | Cost Estmtng\&Control |
| IET 420 | Indstrl\&Environ Sfty |
| IET 435 | Human Factors |


| IET - Human Performance Emphasis ${ }^{2}$ | 12 |  |
| :---: | :--- | :--- |
| IET 230 | Work Measurement |  |
| IET 415 | Mgt of Glbal Tch Org |  |
| IET 420 | Indstrl\&Environ Stty |  |
| IET 435 | Human Factors |  |


| IET - Production Management Emphasis ${ }^{3}$ | 18 |
| :--- | :--- |
| IET 230 | Work Measurement |
| IET 318 | Statistcl Proc Contr |
| IET 332 | Facilities Layout Ds |
| IET 408 | Lean Mgt Methods |
| IET 418 | Cost Estmtng\&Control |
| IET 420 | Indstrl\&Environ Sfty |


| IET - Cost Management Emphasis ${ }^{4}$ | 12 |  |
| :--- | :--- | :--- |
| IET 317 | Industrl Econ\&Analys |  |
| IET 408 | Lean Mgt Methods |  |
| IET 415 | Mgt of Glbal Tch Org |  |
| IET 418 | Cost Estmtng\&Control |  |

## Minor in Quality Assurance (qua)

This minor is open to all majors. The program provides a concentration in the field of quality control, quality assurance, and quality management. Upon successful completion of this minor, the student will have command of statistical quality tools as well as the breadth of quality management concepts and experience in practical application of the tools. All prerequisites and corequisites must be followed.

| IET 318 | Statistcl Proc Contr | 3 |
| :--- | :--- | :--- |
| IET 319 | Quality Improv Mthds | 3 |
| IET 320 | Qualty Assur Technqs | 3 |
| IET 321 | Quality Management | 3 |
| Total Hours |  | 12 |

## Global Manufacturing Systems Engineering Technology

Today's global economy has increasingly become borderless and is dominated by multi-national companies. This requires tomorrow's engineers to be able to work efficiently in multicultural teams. The Global Manufacturing Systems Engineering Technology program is creating a new type of "global engineer" both answering industry's demand and giving the upcoming engineer a competitive advantage in today's market place.

In the Global Manufacturing Systems Engineering Technology program you will use state-of-the-art technology to plan, design, and implement the tools and machines needed to produce high quality products at competitive prices. Throughout the program you will also apply important concepts of the lean enterprise, global competitiveness, green engineering concepts, and customer satisfaction.

The curriculum is highly interdisciplinary since the manufacturing professional must possess extensive technical skills and excellent humanistic skills in communications, computers, teamwork, information technology, globalism and multiculturalism. The technical courses emphasize engineering materials and manufacturing processes; mechanical, hydraulic, and pneumatic automation and electronic controls; computer integrated manufacturing; manufacturing planning and control; extensive laboratory experiences; the technical sciences and applied mathematics from college algebra, probability, statistics, calculus, and linear programming. The curriculum contains strong components from the humanities, social sciences, and communications, plus foreign language and multicultural requirements. The technical electives allow the student versatility in developing technical breadth or depth. The program is designed to prepare the graduates for challenging careers in manufacturing and serves as an excellent foundation for a variety of advanced degree options.

## Faculty

Scott Schneider, Interim Chairperson of the Department of Engineering Technology
Robert L. Wolff, Program Coordinator
Professor Emeritus: Simon
Professors: Summers, Untener, Wolff
Associate Professors: Blust, Falkowski
Assistant Professor: Kozak
Adjunct Professor: Wendeln

## Bachelor of Science with a major in Global Manufacturing Systems Engineering Technology (gmt)

| $\begin{aligned} & \text { CHM } 123 \\ & \& 123 \mathrm{~L} \end{aligned}$ | General Chemistry and Gen Chemistry Lab | 4 |
| :---: | :---: | :---: |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |
| $\begin{aligned} & \text { ECT } 110 \\ & \& 110 \mathrm{~L} \end{aligned}$ | Electrcl Circuits I and Elec Circuits I Lab | 4 |
| ECT 408 | Data Acquis\&Msrmnts | 2 |
| EGR 103 | Engineering Innovatn | 2 |
| ENG 100 <br> \& ENG 200 | Writing Seminar I and Writing Seminar II ${ }^{1}$ | 6 |


| or ENG 200H | Writing Seminar II |  |
| :---: | :---: | :---: |
| HST 103 | West and World | 3 |
| IET 316 | Quantitatv Analysis | 3 |
| IET 317 | Industrl Econ\&Analys | 3 |
| IET 318 | Statistcl Proc Contr | 3 |
| IET 323 | Project Management | 3 |
| IET 408 | Lean Mgt Methods | 3 |
| MCT 110L | Tech Drawing \& Cad | 2 |
| MCT 111L | Intro-Design Lab | 2 |
| MCT 220 | Statics \& Dynamics | 3 |
| MCT 221 | Strength of Matrls | 3 |
| MCT 313 | Industrial Mechanism | 3 |
| MCT 336 <br> \& 336L | Fluid Power and Fluid Power Lab | 4 |
| MFG 108L | Manufact Proc Lab ${ }^{1}$ | 1 |
| MFG 204 <br> \& 204L | Materials\&Processes and Matrls\&Processes Lab | 4 |
| MFG 206L | Dimensnl Metrology | 1 |
| MFG 208L | Geom Dimsn\&Tolrnc Lb | 1 |
| MFG 240 | Manufacturing Design | 3 |
| MFG 427 | Cim and Global MFG | 3 |
| MFG 431 | Controls-Ind Auto | 3 |
| MFG 432 | Mtris\&Proc Plastics | 3 |
| MFG 434 | Robotics \& CNC | 3 |
| MFG 438 | Sustnble Mfg\&Prd Des | 3 |
| MFG 490 | Senior Project | 3 |
| MTH 137 | Calc I with Review | 4 |
| MTH 138 | Calc I with Review | 4 |
| MTH 207 | Intro to Statistics | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 201 \& 201L | General Physics and General Physics Lab | 4 |
| REL 103 | Intro to Religion | 3 |
| SET 100 | First Year Seminar (2 semesters) | 0 |
| SET 101 | Enrichment Workshop (2 semesters) | 0 |
| SET 153L | Tech Computatn Lab | 1 |
| SET 200 | Professional Dev Sem (2 semesters) | 0 |
| SET 499 | Seminar | 1 |
| General Education electives |  | 15 |
| Language requirements ${ }^{2}$ |  | 8 |
| Technical elective ${ }^{3}$ |  | 3 |
| Total Hours |  | 133 |

1 The University's general reading and writing competency requirements are satisfied by completing ENG 100 and ENG 200 or ENG 200 H with a grade of C- or higher. Students admitted to the University Honors program and students with sufficiently high verbal scores on the SAT and ACT are placed in ENG 200 H .
ENG 200 H is a one-semester course which satisfies the University requirement. Students who are placed in ENG 200 H do not receive credit for ENG 100 but are free to take elective course work in place of the waived first semester of composition.
2 Students who have no or limited experience in a foreign language will be required to complete a two-course language sequence either LNG 101/LNG 141 ( 6 sem. hours) depending on their beginning proficiency. Students entering the University of Dayton and enrolled in the program will fulfill this requirement. Students passing the proficiency examination of one or both foreign language course requirements will be required to complete additional Technical electives to fulfill program credits requirements.
3 Select from list approved by the Department of Engineering Technology.

## Minor in Global Manufacturing Systems Engineering Technology (gmt)

This minor is open to all engineering technology majors except manufacturing. The program provides a concentration in manufacturing that will complement the student's major field of study. All prerequisites and corequisites must be followed.

Select four courses from: ${ }^{1}$

| MFG 204 | Materials\&Processes |
| :--- | :--- |
| \& 204L | and Matrls\&Processes Lab |
| MFG 240 | Manufacturing Design |
| MFG 424 | Robotics |
| MFG 427 | Cim and Global MFG |
| MFG 431 | Controls-Ind Auto |
| MFG 432 | Mtrls\&Proc Plastics |
| MFG 434 | Robotics \& CNC |
| MFG 438 | Sustnble Mfg\&Prd Des |
| Total Hours |  |

1 Courses selected may not be those already required for student's major.

## Mechanical Engineering Technology

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.

## Faculty

Scott Schneider, Interim Chairperson of Department of Engineering Technology
David H. Myszka, Program Coordinator
Professor Emeritus: Mott
Professors: Edmonson, Myszka, Untener, Wolff
Associate Professors: Blust, Falkowski
Assistant Professor: Kozak

## Bachelor of Science with a major in Mechanical Engineering Technology (mct)

CHM 123 General Chemistry 4
\& 123L and Gen Chemistry Lab
CMM 110 Group Dec-Making 1
CMM 111 Inform Public Sp 1
$\begin{array}{ll}\text { or CMM 112 } & \text { Persuasive Public Sp } \\ \text { CMM 113 } & \text { Interviewing }\end{array}$
ECT $110 \quad$ Electrcl Circuits I 4
\& 110L and Elec Circuits I Lab
ECT 408 Data Acquis\&Msrmnts 2
EGR 103 Engineering Innovatn 2
ENG $100 \quad$ Writing Seminar I 6
\& ENG 200 and Writing Seminar II ${ }^{1}$
or ENG 200H Writing Seminar II
HST 103 West and World 3
IET 316 Quantitatv Analysis 3
IET 317 Industrl Econ\&Analys 3
IET $323 \quad$ Project Management 3
MCT 110L Tech Drawing \& Cad 2
MCT 111L Intro-Design Lab 2
MCT 220 Statics \& Dynamics 3
MCT $221 \quad$ Strength of Matrls 3
MCT 231 Fluid Mechanics 3
MCT 313 Industrial Mechanism 3
MCT 317 Machine Dynamics 3
MCT 330 Desgn-Machine Elmnts 3
MCT 336 Fluid Power 4
\& 336L
MCT 342 Thermodynamics 3
MCT $490 \quad$ MCT Senior Project 3
MFG 108L Manufact Proc Lab 1
MFG 204 Materials\&Processes 4
\& 204L and Matrls\&Processes Lab
MFG 206L Dimensnl Metrology 1
MFG 208L Geom Dimsn\&Tolrnc Lb 1
MFG 240 Manufacturing Design 3
MFG 431 Controls-Ind Auto 3
MTH $137 \quad$ Calc I with Review 4
MTH 138 Calc I with Review 4
MTH 207 Intro to Statistics 3
PHL 103 Intro To Philosophy 3
PHY 201 General Physics 4
\& 201L and General Physics Lab

3
3
2

3

3

3

| PHY 202 | General Physics |  |
| :--- | :--- | :---: |
| \& 202L | and General Physics Lab | 4 |
| REL 103 | Intro to Religion |  |
| SET 100 | First Year Seminar (2 semesters) | 3 |
| SET 101 | Enrichment Workshop (2 semesters) | 0 |
| SET 153L | Tech Computatn Lab | 0 |
| SET 200 | Professional Dev Sem (2 semesters) | 1 |
| SET 499 | Seminar | 0 |
| General Education electives | 1 |  |
| Technical electives ${ }^{2}$ | 15 |  |
| Total Hours | 12 |  |

1 The University's general reading and writing competency requirements are satisfied by completing ENG 100 and ENG 200 or ENG 200 H with a grade of C- or higher. Students admitted to the University Honors program and students with sufficiently high verbal scores on the SAT and ACT are placed in ENG 200H.
ENG 200 H is a one-semester course which satisfies the University requirement. Students who are placed in ENG 200 H do not receive credit for ENG 100 but are free to take elective course work in place of the waived first semester of composition.
2 Select from list approved by the Department of Engineering Technology.

## Minor in Mechanical Engineering Technology (mct)

This minor is open to all engineering technology majors except mechanical. The program provides a concentration in the mechanical field that will complement the student's major field of study. All prerequisites and corequisites must be followed.

| Select four courses from: ${ }^{1}$ |  |
| :--- | :--- |
| MCT 221 | Strength of Matrls |
| MCT 231 | Fluid Mechanics |
| MCT 313 | Industrial Mechanism |
| MCT 330 | Desgn-Machine Elmnts |
| MCT 336 | Fluid Power |
| \& 336L | and Fluid Power Lab |
| MCT 342 | Thermodynamics |
| MCT 423 | Product Development |
| MCT 430 | Des-Fluid Power Sys |
| MCT 432 | Heat Power |
| MCT 438 | Heat Transfer |
| MCT 440 | Applied Vibrations |
| MCT 445 | Expermtl Mechanics |
| \& 445L | and Expermtl Mech Lab |
| MCT 446 | Finite Elemnt Modlng |
| Total Hours |  |

1 Courses selected may not be those already required for student's major.

## Minor in Automotive Systems (ast)

This minor is open to all engineering technology majors. It is also available for other majors within the University if certain prerequisites have been met. The program provides a concentration in the automotive field that will compliment the student's major program of study.


## Minor in Engineering Technology (egt)

This minor is open to all majors in the College of Arts \& Sciences, the School of Business Administration, and the School of Education and Allied Professions with the appropriate prerequisite background and approval of the Engineering Technology Department Chair. The program introduces the principles of applied engineering and complements many majors at the University.

| Engineering Technology ${ }^{1}$ | 15 |  |
| :--- | :--- | :---: |
| ECT 110 | Electrcl Circuits I | 3 |
| IET 323 | Project Management | 3 |
| MCT 110L | Tech Drawing \& Cad | 2 |
| MFG 204 | Materials\&Processes | 4 |
| $\& 204$ L | and Matrls\&Processes Lab |  |
| Select one course from: | 3 |  |


| ECT 120 | Elec Circuits II |
| :--- | :--- |
| ECT 224 | Digtl Comptr Fund |
| ECT 361 | Programmng Strctrs |
| IET 317 | Industrl Econ\&Analys |
| IET 408 | Lean Mgt Methods |
| IET 415 | Mgt of Glbal Tch Org |
| IET 435 | Human Factors |
| MCT 220 | Statics \& Dynamics |
| MCT 231 | Fluid Mechanics |
| MFG 427 | Cim and Global MFG |
| MFG 432 | Mtrls\&Proc Plastics |
| MFG 434 | Robotics \& CNC |
| Prerequisites: SET 153L or equivalent competency and MTH 137 or |  |
| equivalent competency. |  |

## Minor in Industrial Automation and Applied Robotic Systems (ARS)

This minor is open to all majors in the School of Engineering. The program provides a concentration in the industrial automation and applied robotic systems field that will complement the student's major field of study. All prerequisites and corequisites must be followed.

| Industrial Automation and Applied Robotic Systems ${ }^{1}$ |  |  |
| :--- | :--- | :--- |
| ECT 452 | Feedback Controls | 3 |
| MFG 424 | Robotics | 3 |
| MFG 431 | Controls-Ind Auto | 3 |
| MFG 434 | Robotics \& CNC | 3 |
| Total Hours |  | 12 |

1 If the minor's required courses are already required by the student's major, the student may select ECT 224/ECT 224L, MCT 313, and/ or MCT 317 to complete a total of at least twelve semester hours. Students in Engineering programs may not select courses with content similar to courses offered in their major.

## MINOR IN INTEGRATED ARTS AND TECHNOLOGY (IAT)

The Integrated Arts and Technology minor allows students to connect their aptitude for technical discipline with their passion for the arts. Students select one arts program (graphic design, music, or theatre) and take at least 12 credits of coursework in that program. To put their knowledge to work in a practical and beneficial setting, students will also complete a service-learning project related to their arts program, which may provide academic credit.

This minor is open to all students enrolled in School of Engineering programs. All prerequisites and corequisites must be followed.

## Graphic Design Emphasis

Select four courses from:

| CMM 344 | Multimda Dsgn/Prd I |
| :--- | :--- |
| CMM 444 | Multmedia Dsn\&Prd II |
| SET 400 | Special Topics |
| VAD 215 | Computr Appl-Desgn |
| VAD 218 | Computr Appl-Illust |
| VAD 220 | Design Processes I |
| VAD 240 | Form and Concept |
| VAD 310 | Computer Illustratn |
| VAD 320 | Design Processes II |
| VAD 344 | Desgn for Multmda I |
| VAD 351 | Motion Design |
| VAD 360 | Web Design |
| VAP 340 | Digital Processes II |
| VAR 345 | Cmptr Mod\&\&Anmtn I |
| VAR 440 | Cmptr ModI\&Anmtn II |
| VAR 445 | Cmptr ModI\&Anmtn III |
| Total Hours |  |

Technical Music Emphasis
Select four courses from:

| CMM 340 | Fund of Broadcasting |
| :--- | :--- |
| CMM 341 | Audio Production |
| MUS 205 | Mus, Instrumnts \& Tech |
| MUS 223 | Intro Music Tech |
| MUS 323 | Rec\&Digital Media |
| SET 400 | Special Topics |
| Total Hours |  |

## Television and Stage Production Emphasis

| Select four courses from: | 12 |  |
| :--- | :--- | :--- |
| CMM 341 | Audio Production |  |
| CMM 342 | Fund-Video Productn |  |
| CMM 442 | Adv Television Prod |  |
| SET 400 | Special Topics |  |
| THR 203 | Technical Productn |  |
| THR 305 | Theatre Stagecraft |  |
| THR 307 | Theatre Lighting |  |
| Total Hours |  | 12 |

## Minor in Sustainable Manufacturing (smf)

This minor is open to all majors in the School of Engineering, except Global Manufacturing Systems Engineering Technology (GMT). The program provides a concentration in sustainable manufacturing that will complement the student's major field of study. All prerequisites and corequisites must be followed.

| Sustainable Manufacturing ${ }^{1}$ |  |  |
| :--- | :--- | :---: |
| ECT 461 | Powr Distrbtn\&Contrl | 3 |
| MFG 204 | Materials\&Processes | 3 |
| MFG 204L | Matrls\&Processes Lab | 1 |
| MFG 432 | MtrIs\&Proc Plastics | 3 |
| MFG 438 | Sustnble Mfg\&Prd Des | 3 |
| Total Hours |  | 13 |

1 If the minor's required courses are already required by the student's major, the student may select IET 420, MEE 472, MEE 473, MEE 478 , and/or SEE 250 to complete a total of at least twelve semester hours. Students in Engineering programs may not select courses with content similar to courses offered in their major.

## Electronic Computer Tech Courses

## ECT 110. Electrcl Circuits I. 3 Hours

ELECTRICAL CIRCUITS I - Practical concepts of single voltage source DC and AC circuits: current, voltage, resistance, power, series and parallel circuits, capacitance, magnetic circuits, and inductance. Corequisite(s): ECT 110L.

## ECT 110L. Elec Circuits I Lab. 1 Hour

ELECTRICAL CIRCUITS I LABORATORY - Experiments in single voltage source DC and AC circuits to accompany ECT 110. Three laboratory hours per week. Corequisite(s): ECT 110.

## ECT 120. Elec Circuits II. 3 Hours

ELECTRICAL CIRCUITS II - Practical concepts of multiple voltage and current source DC and AC circuits: reactance, impedance, phase, circuit analysis, power factor, resonance, filters, and transformers. Circuit calculations using vectors, complex algebra, and simultaneous equations. Prerequisite(s): ECT 110.

## ECT 206. Electron Devices I. 3 Hours

ELECTRON DEVICES I - Fundamentals of semiconductor diodes, transistors (bipolar and field effect), amplifiers, biasing and small signal analysis. Prerequisite(s): ECT 120.

## ECT 206L. Electrn Devices I Lb. 1 Hour

ELECTRON DEVICES I LABORATORY - To accompany ECT 206. Three hours of laboratory a week.

## ECT 224. Digtl Comptr Fund. 3 Hours

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(s): ECT 110.

## ECT 224L. Digital Comptr Lab. 1 Hour

DIGITAL COMPUTER FUNDAMENTALS LABORATORY - To
accompany ECT 224. Three hours of laboratory a week.

## ECT 306. Electron Devices II. 3 Hours

ELECTRONIC DEVICES II - Fundamentals of integrated circuits, operational amplifiers, transistors, photoelectric devices, silicon-controlled rectifiers, and their associated circuits. Prerequisite(s): ECT 206.

## ECT 306L. Elect Devices II Lab. 1 Hour

ELECTRON DEVICES II LABORATORY - To accompany ECT 306.
Three hours of laboratory a week.

## ECT 357. Microprocessors I. 3 Hours

MICROPROCESSORS I - Study of microprocessor architecture, hardware, software, applications, and development tools. Prerequisite(s): ECT 224.

## ECT 358. Microprocessors II. 3 Hours

MICROPROCESSORS II - Advanced microprocessors study including development tools and software with regards to interfacing equipment in applications. Prerequisite(s): ECT 357, ECT 361. Corequisite(s): ECT 358L.

## ECT 358L. Microprocssrs II Lab. 1 Hour

MICROPROCESSORS II LABORATORY - To accompany ECT 358.
Emphasis on microcomputer programming. Three hours of laboratory a week. Prerequisite(s): ECT 357.

## ECT 361. Programmng Strctrs. 3 Hours

PROGRAMMING STRUCTURES - The study of programming language concepts. Emphasis on the C language and its application to microcomputer hardware and software development. Prerequisite(s): SET 153L.

## ECT 362. Concp\&Appl-COS. 3 Hours

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(s): ECT 357, ECT 361.

## ECT 400. Selected Topics. 1-4 Hours

SELECTED TOPICS - Investigation and discussion of current technical topics in electronic and computer engineering technology. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## ECT 408. Data Acquis\&Msrmnts. 2 Hours

DATA ACQUISITION AND MEASUREMENTS - Measurement and evaluation of the characteristics of engineering materials, structural mechanics, electromechanical systems, and physical systems. Emphasis on data acquisition, signal conditioning and manipulation, and virtual instrumentation. Prerequisite(s): ECT 110L; (ECT 206 or MCT 221); ENG 102; SET 153L.

## ECT 452. Feedback Controls. 3 Hours

FEEDBACK CONTROLS - Study of principles of control including Nyquist criteria, Bode plots, PID loops, motor control virtual instrumentation, and advanced concepts. Laplace transform analysis is utilized. Prerequisite(s): ECT 306, ECT 408.

## ECT 456. Autmtv Elec\&Sfty Sys. 3 Hours

AUTOMOTIVE ELECTRICAL AND SAFETY SYSTEMS - Theory and design of charging systems, batteries, control systems, safety systems, and various sensor technologies. Overview of manufacturing and commercial aspects of the automotive industry. Prerequisite(s): ECT 110 or EGR 203.

## ECT 461. Powr Distrbtn\&Contrl. 3 Hours

POWER DISTRIBUTION AND CONTROL - Study of power distribution systems including components, basic operation, polyphase circuits, characteristics, and application. Emphasis on the generation of electric power, its transmission, and its application to high power systems. Prerequisite(s): ECT 110.

## ECT 465. Dgtl Data Communctns. 3 Hours

DIGITAL DATA COMMUNICATIONS - Study of communication methods and protocols. Applications to networks, satellite communication, phone systems, fiber optics, modems, and other data transmission. A special emphasis is placed on digital networks. Prerequisite(s): ECT 358 or equivalent.

## ECT 466. Microcmptr Architect. 3 Hours

MICROCOMPUTER ARCHITECTURE - To develop an understanding of the basic hardware architecture of industry standard microcomputers including CPUs, standard busses, memory, mass storage devices, Systems-on-a-Chip and their implementation, I/O devices, and network interfaces. Study of architecture of recent microprocessors. Prerequisite(s): ECT 357 or equivalent.

## ECT 490. Senior Project. 3 Hours

SENIOR PROJECT - The design, construction and presentation of an original project. The project may be individual or part of an interdisciplinary engineering technology team project. Written and oral reports. Prerequisite(s): CMM 110, (CMM 111 or CMM 112); ECT 408; IET 323; MTH 138; senior status.

ECT 494. Honors Thesis. 3 Hours

## Engineering Technology Courses

## SET 100. First Year Seminar. 0 Hours

ENGINEERING TECHNOLOGY FIRST YEAR SEMINAR - Seminar for all engineering technology majors. Introduction to the University of Dayton, the School of Engineering, the Department of Engineering Technology, engineering technology programs and careers. Emphasizes professional ethics, critical thinking and communications, and team dynamics. Academic policies, academic planning, registration procedures, counseling and career placement services. Required of all first-year engineering technology students both semesters.

## SET 101. Enrichment Workshop. 0 Hours

ENRICHMENT WORKSHOP - Workshop structured to provide collaborative learning for first-year Engineering Technology students. Work will focus on math, chemistry and other first year courses. Required of all first-year engineering technology students both semesters.

## SET 153L. Tech Computatn Lab. 1 Hour

TECHNICAL COMPUTATION LABORATORY - Introduction to applications and use of computers for engineers with concentration on spreadsheets, electronic communications, and object oriented programming using Visual Basic.

## SET 198. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in 1) selection and design, 2) investigation and data collection, 3) analysis and 4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered. Prerequisite(s): Permission of department chairperson.

## SET 200. Professional Dev Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

## SET 298. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in 1) selection and design, 2) investigation and data collection, 3 ) analysis and 4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered. Prerequisite(s): Permission of department chairperson.

## SET 300. Egr Tech Transfr Sem. 0 Hours

ENGINEERING TECHNOLOGY TRANSFER SEMINAR A - seminar for full-time engineering technology majors who transferred from another academic institution. Introduction to the University of Dayton, the School of Engineering, the Department of Engineering Technology, engineering technology programs, and careers. Emphasizes professional ethics, critical thinking and communication, and team dynamics. Academic policies, academic planning, registration procedures, counseling, and career placement services.

## SET 398. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in 1) selection and design, 2) investigation and data collection, 3) analysis and 4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered. Prerequisite(s): Permission of department chairperson.

## SET 400. Special Topics. 0-4 Hours

SPECIAL TOPICS IN ENGINEERING TECHNOLOGY - Investigation and discussion of current topics in engineering technology. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## SET 498. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in 1) selection and design, 2) investigation and data collection, 3) analysis and 4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered. Prerequisite(s): Permission of department chairperson.

## SET 499. Seminar. 1 Hour

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.

## Global Manufact Sys Egr Tech Courses

MFG 108L. Manufact Proc Lab. 1 Hour
MANUFACTURING PROCESSES LABORATORY - Application of metalcutting 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.

## MFG 204. Materials\&Processes. 3 Hours

MATERIALS AND PROCESSES - Chemical and physical properties of metals, ceramics, and polymers; casting processes; powdered metallurgy; metal forming; plastics processes. Oral and written presentation of a team case study. Corequisite(s): MFG 204L.

## MFG 204L. Matrls\&Processes Lab. 1 Hour

MATERIALS AND PROCESSES LABORATORY - Testing of materials for tensile strength, impact and hardness properties, cooling curves and equilibrium diagram development, heat treating and hardenability curve determination, cold forming, plastics materials processing, micro polishing and metallography; visits to local industries. Three hours of laboratory a week. Corequisite(s): MFG 204.

## MFG 206L. Dimensnl Metrology. 1 Hour

DIMENSIONAL METROLOGY LABORATORY - Theory and practice of precision measurement including the surface plate, angle and sine plates; surface texture and roundness; optical microscope and profile projector; mechanical and electronic gages; co-ordinate measuring machine; length standards and height gages; fixed and functional gages; sources of measurement error. Three hours of laboratory a week. Prerequisite(s): MCT 110L; MTH 137.

## MFG 208L. Geom Dimsn\&Tolrnc Lb. 1 Hour

GEOMETRIC DIMENSIONING AND TOLERANCING LABORATORY - Study of the use of ANSI Y14.5M-1994, the engineering standard for geometric dimensioning and tolerancing. Includes the proper use of GD\&T symbols, reading and interpretation of engineering drawings, techniques for determining part adherence to design requirements and workmanship standards. Prerequisite(s): MCT 110L.

## MFG 240. Manufacturing Design. 3 Hours

MANUFACTURING AND PRODUCT DESIGN - Manufacturing planning; process planning; advanced cutting tools; workholders; power pressesblanking, forming, draw dies, fine blanking; group technology, gage, jig, and fixture design. Prerequisite(s): MCT 110L; MFG 108L, MFG 204.

## MFG 400. Sel MFG Topics. 1-4 Hours

SELECTED MANUFACTURING TOPICS - Investigation and discussion of current topics in manufacturing engineering technology. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## MFG 424. Robotics. 3 Hours

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. Prerequisite(s): MCT 220, MCT 313; SET 153L.

## MFG 427. Cim and Global MFG. 3 Hours

COMPUTER INTEGRATED MANUFACTURING AND GLOBAL MANUFACTURING - Computer Integrated Manufacturing (CIM) systems and interrelationships; group technology, computer-aided process planning, expert systems, local area networks, automated flow lines, data collection, and material handling. Also covered are global manufacturing issues and specific country concerns. Prerequisite(s): ECT 110; MFG 108L, MFG 204; SET 153L.

## MFG 431. Controls-Ind Auto. 3 Hours

CONTROLS FOR INDUSTRIAL AUTOMATION - Topics include: fundamentals of digital logic, pneumatic power, electromechanical sensors and actuators, pneumatic and electrical control circuit analysis and design, industry safety and design standards, concepts of mechatronics, programmable logic controllers, and networking communications. Prerequisite(s): ECT 110; SET 153L.

MFG 432. Mtrls\&Proc Plastics. 3 Hours
PLASTICS, COMPOSITES, AND NANO MATERIALS AND
PROCESSES - Introduction to the more common plastics, composites, and nano engineering materials and their properties. Study of processes including extrusion, injection molding, blow molding, compression and transfer molding, and forming. Topics on part and tooling design. Prerequisite(s): CHM 123; MFG 204.

## MFG 434. Robotics \& CNC. 3 Hours

ROBOTICS AND COMPUTER NUMERICAL CONTROL - Programming of CNC turning and machining centers and industrial robots; application of CAM software to design and edit CNC and robot programs, edit programs, and display tool and motion paths. Parametric part programming concepts to produce complex surfaces. Programming of robotic devices. Prerequisite(s): MCT 110L; MFG 108L; SET 153L.

## MFG 435. Adv Numerical Contrl. 3 Hours

ADVANCED NUMERICAL CONTROL - Instruction in the programming of complex, multi-axis CNC machines. Extended parametric programming. Programming language techniques. Prerequisite(s): MFG 434.

## MFG 438. Sustnble Mfg\&Prd Des. 3 Hours

SUSTAINABLE MANUFACTURING AND PRODUCT DESIGN - Design for the environment, sustainable manufacturing processes and business practices to support these topics are developed. Prerequisite(s): (MFG 108L, MFG 204; MTH 138) or permission of instructor.

## MFG 490. Senior Project. 3 Hours

SENIOR 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, technical reports, and presentations. Prerequisite(s): CMM 110, (CMM 111 or CMM 112); IET 323; MFG 108L, MFG 208L, MFG 240, MFG 431; MCT 111L; MTH 138; senior status.

## MFG 493. Honors Thesis. 3 Hours

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.

## MFG 494. Honors Thesis. 3 Hours

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. Prerequisite(s): MFG 493.

## Industrial Engineering Tech Courses

IET 230. Work Measurement. 3 Hours
WORK MEASUREMENT - Fundamentals of work simplification, motion economy, and productivity improvement 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. Prerequisite(s): MTH 137.

IET 230L. Wrk Msrmnt Lab. 1 Hour

## IET 316. Quantitatv Analysis. 3 Hours

QUANTITATIVE ANALYSIS - Introduction of the mathematical techniques used to support decision making and managerial analysis. Probability theory, decision theory, linear programming, queuing theory, matrix algebra, differential and integral calculus, and differential equations. Prerequisite(s): MTH 138 or MTH 168; MTH 207.

## IET 317. Industrl Econ\&Analys. 1-3 Hours

INDUSTRIAL ECONOMIC AND FINANCIAL ANALYSIS - Comparison of manufacturing or service industry projects and investments based on their economic value. Quantification of costs and benefits; analysis using present worth, annual worth, and rate of return methods. Study of simple and compound interest. Basic financial accounting concepts, including balance sheets, income statements, change of financial condition, etc. Prerequisite(s): MTH 137.

## IET 318. Statistcl Proc Contr. 3 Hours

STATISTICAL PROCESS CONTROL - Statistics and probability theory applied to produce control charts ( x -bar, $\mathrm{R}, \mathrm{s}, \mathrm{p}, \mathrm{u}$, and c ) to monitor processes. Interpretation and application of these charts. Problem solving techniques, Pareto analysis, and modern quality management techniques. Prerequisite(s): MTH 207.

## IET 319. Quality Improv Mthds. 3 Hours

QUALITY IMPROVEMENT METHODS - Study of problem-solving methodologies and techniques. Team development. Students will learn to use Pareto diagrams, force field analysis, cause and effect diagrams, process mapping, and other problem-solving tools. Quality costs, product liability, and ethics are also covered. Prerequisite(s): IET 318.

## IET 320. Qualty Assur Technqs. 3 Hours

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 sample size selection. Prerequisite(s): IET 318; MTH 207.

## IET 321. Quality Management. 3 Hours

QUALITY MANAGEMENT - Provides students with an understanding of managing a total quality environment to improve quality, increase productivity and reduce costs. An introduction to Deming, Juran, and others. Total Quality Management implementation strategies, requirements of ISO 9000, QS 9000, and the Malcolm Baldrige award will be covered. Prerequisite(s): IET 318; MTH 207.

## IET 323. Project Management. 3 Hours

PROJECT MANAGEMENT - Study of the structure, techniques, and application of project management including project proposals, project plans, decision making, styles of management, and communications. Semester team project with written and oral presentations. Prerequisite(s): SET 153L.

## IET 332. Facilities Layout Ds. 3 Hours

FACILITIES LAYOUT DESIGN - Design of manufacturing and service 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. Prerequisite(s): MCT 110L. Corequisite(s): MCT 111L.

## IET 346. Six Sigma Yellow Belt. 1.5 Hour

SIX SIGMA YELLOW BELT - This course is designed to facilitate skill acquisition along with clinical reasoning and decision making as it relates to the physical therapy care and management of various advanced topics including cardiopulmonary rehabilitation, women's health issues, manual therapy strategies, electrotherapeutics as well as orthopedic, neurological, and pediatric therapeutic interventions. Prerequisite(s): Successful completion of all prior course work as outlined in the University of Dayton DPT curriculum.

## IET 400. Selected Topics. 1-4 Hours

SELECTED TOPICS - Self-paced research course. Preparation of a documented written research project on an engineering technology subject. May not be taken more than once. Prerequisite(s): Junior or senior status; permission of department chairperson.

## IET 408. Lean Mgt Methods. 3 Hours

LEAN MANAGEMENT METHODS - Study of the principles and current practices of optimizing production using Lean Management concepts. Lean Thinking, Just-in-Time, Kaizen, set-up reduction, pull systems, focused factories, standard operations, total productive maintenance, and defect-free processing methods are studied and applied. Prerequisite(s): Junior or senior status.

## IET 415. Mgt of Glbal Tch Org. 3 Hours

MANAGEMENT OF GLOBAL TECHNICAL ORGANIZATIONS - Study of the structure of industrial and service organizations; study of the duties and responsibilities of a manager or supervisor in a global technical organization in developing an effective project or production team. Study of labor administration; labor legislation, current labor practices and international management.

## IET 418. Cost Estmtng\&Control. 3 Hours

COST ESTIMATING AND CONTROL - 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, budgets, and profit. Semester team and individual projects, written and oral. Study of job order and process cost accounting, activity based costing, and cost-volume-profit relationships. Prerequisite(s): MTH 137.

## IET 420. Indstrl\&Environ Sfty. 3 Hours

INDUSTRIAL AND ENVIRONMENTAL SAFETY - Application of safety techniques and principles to identify and correct unsafe situations and practices. Study of system safety, failure modes and effects analysis, fault tree analysis, preliminary hazard analysis, hazardous materials and practices, OSHA, health and personal protection.

## IET 423. IET-Service Orgnztns. 3 Hours

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(s): IET major; junior status.

## IET 425. Elmnts-Cost Contrl. 3 Hours

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 financial and cost accounting including balance sheets, income statements, change of financial condition, ratio analysis, and Activity-Based Costing. Prerequisite(s): MTH 137.

## IET 435. Human Factors. 3 Hours

HUMAN FACTORS - Methods to improve the interface between humans and their environment. Human characteristics are studied to determine the best way to design the task, product, work station, or other environmental features to accommodate the human. Written and oral projects. Prerequisite(s): (Junior or senior status) or permission of instructor.

## IET 446. Six Sigma Green Belt. 3 Hours

SIX SIGMA GREEN BELT - Learn, practice, and use six-sigma tools in preparation of a final certification project in a commercial business situation. Use, analyze and solve an identified business variation problem to achieve industry recognized certification.

## IET 490. Senior Project. 3 Hours

SENIOR PROJECT - Applications of IET principles to a real world project using student teams for analysis and productivity improvement. Students will manage a project, applying planning, scheduling, monitoring, and control techniques. Oral and written project proposals, status updates, and final reports presented by teams of students to the management of the sponsoring organizations. Prerequisite(s): CMM 110, (CMM 111 or CMM 112); IET 317, IET 323, IET 332, IET 408, IET 435; MTH 138; senior status.

## IET 493. Honors Thesis. 3 Hours

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.

## IET 494. Honors Thesis. 3 Hours

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. Prerequisite(s): IET 493.

## Mechanical Engineering Tech Courses

## MCT 110L. Tech Drawing \& Cad. 2 Hours

TECHNICAL DRAWING AND CAD LABORATORY - 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 instruments and commercial computer-aided design (CAD) software.

## MCT 111L. Intro-Design Lab. 2 Hours

INTRODUCTION TO DESIGN LABORATORY - Advanced topics of Computer Aided Design using three-dimensional, parametric, solid modeling software. Laboratory assignments involving the CAD software are completed through a series of individual and team design projects. Introduction to design requirements, conceptualization, and design decisions. Computer drafting topics such as ANSIY 14.5M-1994 geometric dimensioning and tolerancing standards, weld symbols, machining and surface finish symbols. Blueprint reading. Prerequisite(s): MCT 110L.

## MCT 220. Statics \& Dynamics. 3 Hours

STATICS AND DYNAMICS - Study of forces on bodies at rest and in motion using Newton $\hat{A}_{¿} \hat{A}_{¿}$ s three laws of motion. Vectors, force systems, components, reactions, resultants, free body diagrams, equilibrium, centroids, moment of inertia, kinetics, and kinematics. Prerequisite(s): SET 153L. Corequisite(s): MTH 137.

## MCT 221. Strength of Matrls. 3 Hours

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. Prerequisite(s): MCT 220; MFG 204, MFG 204L; MTH 137; SET 153L.

## MCT 231. Fluid Mechanics. 3 Hours

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. Prerequisite(s): MTH 137; SET 153L.

## MCT 313. Industrial Mechanism. 3 Hours

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. Prerequisite(s): MCT 110L, MCT 220; MTH 137; SET 153L.

## MCT 317. Machine Dynamics. 3 Hours

MACHINE DYNAMICS - Principles of applied engineering mechanics as they relate to machines; static force analysis in both 2 and 3 dimensional systems, kinetics of machine components by the methods of force-massacceleration, work-energy, and impulse-momentum; machine balancing; introduction to mechanical vibrations. Prerequisite(s): MCT 111L, MCT 313; MTH 138.

## MCT 330. Desgn-Machine Elmnts. 3 Hours

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. Prerequisite(s): MCT 111L, MCT 221; MFG 208L; SET 153L.

## MCT 336. Fluid Power. 3 Hours

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(s): MCT 221. Corequisite(s): MCT 336L.

## MCT 336L. Fluid Power Lab. 1 Hour

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.

## MCT 342. Thermodynamics. 3 Hours

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. Prerequisite(s): MCT 231; MTH 138; SET 153 L .

## MCT 400. Selected Topics. 1-4 Hours

SELECTED MECHANICAL TOPICS - Investigations and discussion of cur-rent technical topics in mechanical engineering technology. Research report. May be taken more than once. Prerequisite(s): Permission of department chairperson.

## MCT 423. Product Development. 3 Hours

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(s): MCT 330.

## MCT 430. Des-Fluid Power Sys. 3 Hours

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(s): MCT 336.

## MCT 432. Heat Power. 3 Hours

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. Prerequisite(s): MCT 342; SET 153L.

## MCT 438. Heat Transfer. 3 Hours

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. Prerequisite(s): MCT 231; SET 153L.

## MCT 440. Applied Vibrations. 3 Hours

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. Prerequisite(s): MCT 317; SET 153L.

## MCT 445. Expermtl Mechanics. 3 Hours

EXPERIMENTAL MECHANICS - The selection, application, and use of strain gages and strain gage rosettes. Transformation of stress and strain. Advanced mechanics of materials topics with empirical verification of theoretical predictions. Prerequisite(s): MCT 221.

## MCT 445L. Expermtl Mech Lab. 1 Hour

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.

## MCT 446. Finite Elemnt ModIng. 3 Hours

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. Prerequisite(s): MCT 221; SET 153L.

## MCT 456. Autmtv Pwrtn\&Chs Sys. 3 Hours

AUTOMOTIVE POWERTRAIN AND CHASSIS SYSTEMS - Theory and design of engines, transmissions, suspension, and chassis systems. Overview of manufacturing and commercial aspects of the automotive industry. Prerequisite(s): EGR 201 or MCT 220.

## MCT 490. MCT Senior Project. 3 Hours

MECHANICAL ENGINEERING TECHNOLOGY SENIOR PROJECT

- 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. Prototyping and evaluation of an original team project. Written and oral reports. Prerequisite(s): CMM 110, (CMM 111 or CMM 112); IET 323; MCT 111L, MCT 317, MCT 330; MTH 138; senior status.


## MCT 493. Honors Thesis. 3 Hours

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.

## MCT 494. Honors Thesis. 3 Hours

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. Prerequisite(s): MCT 493.

## Mechanical and Aerospace Engineering

Major:

- Bachelor of Mechanical Engineering

Concentrations:

- Aerospace Engineering
- Energy Systems-Mechanical

Minors:

- Aerospace Engineering
- Mechanical Systems

Mechanical engineers apply principles of motion, energy, force, materials and mathematics to design and analyze a wide variety of products and systems. The field requires an understanding of core concepts including mechanics, kinematics, thermodynamics, heat transfer,
materials science, and controls. Mechanical engineers use these core principles along with tools like computer-aided engineering and product life cycle management to design and analyze manufacturing plants, industrial equipment and machinery, heating and cooling systems, automotive systems, aircrafts, robotics, medical devices and more. Today, mechanical engineers are pursuing developments in such fields as composites, mechatronics, nanotechnology, and are helping to create a more sustainable future.
The mechanical engineering curriculum serves as a broad-based education for positions in these diverse fields or for graduate study leading to advanced degrees. The first part of the mechanical engineering curriculum provides a firm foundation in mathematics, physics, chemistry, computer-aided drawing and conceptual design, and the humanities. The second part of the curriculum provides the engineering science fundamentals and laboratory experiences necessary for testing, design, as well as continued learning in the humanities, arts, and social sciences. The final part of the curriculum emphasizes synthesis of knowledge through major design projects. The curriculum includes sufficient elective courses to permit a concentration in aerospace, energy systems, and engineering as well as minors in several other areas.

The education experience, guided by the University of Dayton Catholic and Marianist heritage, seeks to prepare graduates who will:

- have the ability to apply mathematics, science, and engineering fundamentals and computational tools to design components, systems and/or processes;
- have the ability to design and conduct experiments and analyze and interpret data;
- have the ability to communicate their ideas/solutions effectively;
- serve as effective team members and leaders;
- understand the social, environmental and economic impact of engineering in a global context;
- be able to think critically about contemporary issues;
- continue their personal and professional development by engaging in lifelong learning;
- integrate ethical action, integrity, and service into their profession and lives.


## Faculty

J. Kelly Kissock, Chairperson

Professors Emeriti: Chuang, Doepker, Eastep, Eimermacher, Minardi, Schauer, Wurst
Professors: Ballal, Doyle, Ervin, Hallinan, Jain, Kashani, Kissock, Murray
Associate Professors: Altman, Petrykowski, Pinnell
Assistant Professors: Bigelow, Rumpfkeil
Lecturer: Henrick
Graduate Faculty: Brockman, Camberos, Kolonay, Olsen, Sidhu, Stouffer, Zabarnick

## Bachelor of Mechanical Engineering (MEE)

| CHM 123 | General Chemistry | 3 |
| :--- | :--- | :--- |
| CHM 123L | Gen Chemistry Lab | 1 |
| CMM 110 | Group Dec-Making | 1 |
| CMM 111 | Inform Public Sp | 1 |
| or CMM 112 | Persuasive Public Sp |  |
| CMM 113 | Interviewing | 1 |


| ECE 201L | Circuit Anlys Lab | 1 |
| :---: | :---: | :---: |
| EGM 202 | Dynamics | 3 |
| EGM 303 | Mechanics II | 3 |
| EGR 100 | Enrichment Workshop (2 semesters) | 0 |
| EGR 103 | Engineering Innovatn | 2 |
| EGR 201 | Engr Mechanics | 3 |
| EGR 202 | Engr Thermodynamics | 3 |
| EGR 203 | Electrcl \& Elctrnc Crt | 3 |
| ENG 100 \& ENG 200 or ENG 200H | Writing Seminar I and Writing Seminar II Writing Seminar II | 6 |
| HST 103 | West and World | 3 |
| or HST 198 | HST Scholars Sem |  |
| MEE 101 | Intro to Mech Engr (2 semesters) | 0 |
| MEE 104L | Computer Graphics I | 1 |
| MEE 200 | Prof Development Sem (2 semesters) | 0 |
| MEE 227L | Computer Graphics II | 1 |
| MEE 308 | Fluid Mechanics | 3 |
| MEE 312 <br> \& 312L | Engr Materials I and Materials Lab | 4 |
| MEE 314 | Computational Mthds | 3 |
| MEE 321 | Theory of Machines | 3 |
| MEE 341 | Engineerng Expermntn | 3 |
| MEE 344 | Manufctrng Processes ${ }^{1,2}$ | 3 |
| MEE 410 <br> \& 410L | Heat Transfer and Thermofluids Lab | 4 |
| MEE 415 | Professnl Dvipmnt I | 0 |
| MEE 416 | Professnl Dvipmnt II | 1 |
| MEE 427 | Mech Design I | 3 |
| or MEE 425 | Aerospace Design |  |
| MEE 431L | MultiDisplayEngrDsgn I | 1 |
| MEE 432L | Mltdspy Egr Ds Lb II | 3 |
| MEE 433 | Proj Mangmt\&Innvotn | 1 |
| MEE 439 | Dynamic Sys \& Conrls | 4 |
| or MEE 440 | Flight Vehicle Perf |  |
| MEE 460 | Engineering Analysis | 3 |
| MTH 168 | Anly Geom \& Calc I | 4 |
| MTH 169 | Anly Geom \& Calc II | 4 |
| MTH 218 | Anly Geom \& Calc III | 4 |
| MTH 219 | Appl Diff Equations | 3 |
| PHL 103 | Intro To Philosophy | 3 |
| PHY 206 | Gen Physics I Mech | 3 |
| PHY 207 | Gen Phy II Ele \& Mag | 3 |
| REL 103 | Intro to Religion | 3 |
| Select one ethics elective from: |  | 3 |
| PHL 316 | Engineering Ethics |  |
| REL 369 | Chrstn Ethics \& Engr |  |
| Select one math/science elective from: |  | 3 |
| BIO 151 | Concepts of Bio I |  |
| BIO 152 | Concepts of Bio II |  |
| CHM 124 | General Chemistry |  |
| GEO 208 | Environmentl Geology |  |


| GEO 218 | Engineering Geology |
| :--- | :--- |
| GEO 308 | Probs-Envrmntl Geo |
| GEO 309 | Surf\&Groundwtr Hydr |
| GEO 412 | Intro Geochemistry |
| HSS 305 | Human Anatomy |
| MTH 308 | Fndtn \& Discrete Mth |
| MTH 310 | Lin Alg \& Matrices |
| MTH 343 | Math-CPE\&ELE Engr |
| MTH 367 | Statistical Meth I |
| MTH 403 | Boundary Value Probs |
| MTH 404 | Complex Variables |
| MTH 440 | Intro Math Modeling |
| PHY 208 | Gen Phy III Mec Wavs |
| PHY 220 | Energy \& Env Physics |
| PHY 232 | Physics of Waves |
| PHY 321 | Atom \& Nuclear Phy |
| SEE 301 | Glbl Chng\&Erth Sys |

General Education electives 12
MEE electives ${ }^{1} \quad 6$

| Open electives ${ }^{1}$ | 6 |
| :--- | ---: |
| Total Hours | 132 |

1 Aerospace concentration students must take MEE 225 in place of an open elective, MEE 401 in place of MEE 344, and MEE 413 in place of an MEE elective.

2 Energy Systems concentration students may take MEE 478 in place of MEE 344.

## Concentration in Aerospace Engineering (AEC)

This concentration is open only to mechanical engineering majors. The program provides a strong background for career specialization in the fields of aircraft and aerospace engineering.

| MEE 225 | Intro to Flight | 3 |
| :--- | :--- | :--- |
| MEE 401 | Aerodynamics | 3 |
| MEE 409 | Aerospace Structure | 3 |
| MEE 425 | Aerospace Design | 3 |
| MEE 440 | Flight Vehicle Perf | 4 |
| Select one course from: | 3 |  |
| AEE 558 | Compu Fluid Dyn |  |
| MEE 413 | Propulsion |  |
| Any approved graduate AEE course | 3 |  |
| Total Hours |  |  |

## Concentration in Energy Systems Mechanical (MRS)

This concentration is open to all engineering students.

| EGR 202 | Engr Thermodynamics | 3 |
| :--- | :--- | :--- |
| MEE 308 | Fluid Mechanics | 3 |
| MEE 410 | Heat Transfer | 3 |
| Select three courses from: | 9 |  |


| ASI 320 | Cities and Energy |
| :--- | :--- |
| CEE 390 | Envr Pollutn Cntrl |


| CEE 434 | Water \& Waste Engr |
| :--- | :--- |
| ECO 435 | Eco of Environmnt |
| PHL 321 | Environmntl Ethics |
| PHY 220 | Energy \& Env Physics |
| POL 371 | Environmental Policy |
| SEE 301 | Glbl Chng\&Erth Sys |
| SEE 401 | Sustnblty Research I |

Any approved Arts and Science energy/sustainability related elective
Select three courses from:

| AEE 565 | Fundmntls-Combustion |
| :--- | :--- |
| or MEE 565 | Fund of Combustion |
| AEE 566 | Combustion Theory |
| MEE 413 | Propulsion |
| MEE 420 | Energy Effent Bldgs |
| MEE 432L | Mltdspy Egr Ds Lb II |
| MEE 471 | Des-Thermal Systems |
| MEE 472 | Des-Environment |
| MEE 473 | Renewable Energy Sys |
| MEE 478 | Energy Eff Manufact |
| MEE 493 | Honors Thesis |
| MEE 511 | Adv Thermodynamics |
| Any approved engineering energy/sustainability related elective |  |
| Total Hours |  |

## Minor in Aerospace Engineering (AAE)

This minor is open to chemical, civil, and mechanical engineering majors. The program provides a strong background for career specialization in the fields of aircraft and aerospace engineering.

Select four courses from:
AEE 558 Compu Fluid Dyn
MEE 225 Intro to Flight
MEE 401 Aerodynamics
MEE 409 Aerospace Structure
MEE 425 Aerospace Design
MEE $440 \quad$ Flight Vehicle Perf
MEE 413 Propulsion
Approved AEE related elective
Total Hours

## Minor in Mechanical Systems (MES)

This area concentrates on the study of design and analysis as well as modeling and control of mechanical systems. The activities in this area include, but are not limited to, computer-aided design, kinematic synthesis and analysis, acoustics and structural dynamics, noise and vibrations control, system modeling and identifications, and dynamics systems and control.

Select four courses from:
ECE 416 Intro to Robotics
ECE 545 Automatic Control
MEE 428 Mech Design II
MEE 430/530 Biomechanical Engr
MEE 434/537 Mechatronics

| MEE 490 | Special Topics ${ }^{1}$ |
| :--- | :--- |
| MEE 503 | Intro Continuum Mech |
| MEE 519 | Analytical Dynamics |
| MEE 520 | Theortcl Kinematics |
| MEE 521 | Kinematic Prin-Dsgn |
| MEE 522 | Geometric Methods |
| MEE 523 | Engr Des Optimizatn |
| MEE 535 | Adv Mech Vibrations |
| MEE 545 | Computr Methds-Desgn |
| MEE 546 | Finite Elmnt Anly I |
| Total Hours |  |

1 Approval of Department Chair needed.

## Courses

MEE 101. Intro to Mech Engr. 0 Hours
INTRODUCTION TO MECHANICAL ENGINEERING - Weekly meeting of first-semester, first-year mechanical engineering students. Orientation to engineering problem solving and team building through hands on applications.

## MEE 104L. Computer Graphics I. 1 Hour

COMPUTER GRAPHICS I - Fundamentals of engineering graphics and the part that graphical communication plays in engineering. Introduction to computer aided design (CAD).

## MEE 198. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis, and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## MEE 200. Prof Development Sem. 0 Hours

PROFESSIONAL DEVELOPMENT SEMINAR - Presentations on contemporary and professional engineering subjects by students, faculty, and engineers in active practice. The seminar addresses topics in key areas that complement traditional courses and prepare distinctive graduates, ready for life and work. Registration required for all sophomore students.

## MEE 225. Intro to Flight. 3 Hours

INTRODUCTION TO FLIGHT - An introductory course designed to provide students with a basic understanding of the multitude of disciplines that comprise the aeronautical engineering profession. A background and brief history of flight are covered. Foundational knowledge of aerodynamics, propulsion, aerostructures, aircraft performance and aerospace vehicle design. Laboratory included. Prerequisite(s): PHY 206.

## MEE 298. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis, and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## MEE 308. Fluid Mechanics. 3 Hours

FLUID MECHANICS - An introductory course in fluid mechanics. Fundamental concepts including continuity, momentum, and energy relations. Control volume analysis and differential formulations. Internal and external flows in laminar and turbulent regimes. One-dimensional compressible flows. Prerequisite(s): EGR 202. Corequisite(s): MTH 219.

## MEE 312. Engr Materials I. 3 Hours

ENGINEERING MATERIALS I - Atomic structure, bonding, and arrangement in solids. Mechanical and physical properties of solids, phase equilibria, and processing of solids. Strengthening methods in solids, principles of material selection, and characteristics of nonferrous alloys, polymers, ceramic composites, and construction materials. Corequisite(s): EGM 303; MEE 312L.

## MEE 312L. Materials Lab. 1 Hour

MATERIALS LABORATORY - Conducting mechanical and physical tests on solids including, but not limited to tension, compression, bending, hardness, and impact. Metallographic examination of surfaces. Test standards, data reduction, analysis, interpretation, and written and oral communication of test results. Corequisite(s): EGM 303; MEE 312.

## MEE 314. Computational Mthds. 3 Hours

COMPUTATIONAL METHODS - Detailed introduction to solving engineering problems through programming in the Matlab technical computing software package. Fundamentals of algorithms, including iterative processes, arrays and logic operations. Graphing of 2D and 3D functions. Graphical user interfaces. Focus on engineering applications that utilize the mathematical techniques of linear algebra, statistics and numerical methods. Corequisite(s): MTH 219.

## MEE 321. Theory of Machines. 3 Hours

THEORY OF MACHINES - Applications and design of mechanisms; use of graphical and analytical techniques for the kinematic and dynamic analysis and synthesis of machines. Analysis and design of cams, gears and gear trains. Balancing of rotating masses. Corequisite(s): EGM 202.

## MEE 341. Engineerng Expermntn. 3 Hours

ENGINEERING EXPERIMENTATION - Basic sensors and instrumentation, design of experiments, data acquisition and processing, and uncertainty and statistical analysis of data. Measurement of strain, motion, pressure, temperature, flow and sound. Measurement applications to engineering phenomena or systems. Course will utilize a mix of lecture, laboratory experiments, and demonstrations. Also a term project to provide design of experiment experience. Corequisite(s): EGM 303; MEE 308.

## MEE 227L. Computer Graphics II. 1 Hour

COMPUTER GRAPHICS II - Advanced engineering graphics and graphical communication in engineering; introduction to project design. Prerequisite(s): MEE 104L.

## MEE 344. Manufctrng Processes. 3 Hours

MANUFACTURING PROCESSES - Casting processes including casting defects and design of castings; metal working processes such as extrusion, forging, rolling and wire drawing; sheet metal forming; welding processes; powder metallurgy and design principles for $\mathrm{P} / \mathrm{M}$ parts, metal removal processes; forming and shaping plastics and composite materials; rapid prototyping. Design principles for manufacturability. Includes laboratory. Prerequisite(s): MEE 312.

## MEE 398. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis, and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

## MEE 401. Aerodynamics. 3 Hours

AERODYNAMICS - Fundamentals of steady, incompressible, and inviscid aerodynamic flows over wings. Emphasis on force and moment determination for air foil and finite wings. Prerequisite(s): MEE 308.

## MEE 409. Aerospace Structure. 3 Hours

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(s): EGM 303.

## MEE 410. Heat Transfer. 3 Hours

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. Prerequisite(s): MEE 308.

## MEE 410L. Thermofluids Lab. 1 Hour

THERMO-FLUIDS LABORATORY - Hands-on opportunities for students to gain knowledge of instrumentation used for temperature, flow, heat, and pressure measurement and to visualize thermo-fluids phenomena in a rich problem solving context. Phenomena to be studied include: boundary layer and separation phenomena, internal flow characteristics, hydraulics, conduction, convection, and combustion. Corequisite(s): MEE 410.

## MEE 413. Propulsion. 3 Hours

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(s): MEE 308.

## MEE 415. Professnl Dvipmnt I. 0 Hours

PROFESSIONAL DEVELOPMENT I - Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice; student involvement in professional and service activities. Registration required of all MEE juniors.

## MEE 416. Professnl Dvipmnt II. 1 Hour

PROFESSIONAL DEVELOPMENT II - Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice; student involvement in professional and service activities. Registration required of all MEE seniors.

## MEE 417. Internl Combstn Engn. 3 Hours

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(s): EGR 202 or permission of instructor.

## MEE 420. Energy Effent Bldgs. 3 Hours

ENERGY EFFICIENT BUILDINGS - Provides knowledge and skills necessary to design and operate healthier, more comfortable, more productive, and less environmentally destructive buildings. A specific design target of $E / 3$ (typical energy use divided by three) is established as a goal. Economic, thermodynamic, and heat transfer analyses are utilized. Extensive software development. Prerequisite(s): MEE 410.

## MEE 425. Aerospace Design. 3 Hours

AEROSPACE DESIGN - Capstone Air Vehicle Design project that involves both individual and team-based conceptual and preliminary design and sizing. This course integrates the knowledge acquired from the disciplinary subjects already taken (aerodynamics, aerospace structures, propulsion, flight dynamics and intro to flight) in order to size an air vehicle based on a set of requirements. Prerequisite(s): (MEE 225, MEE 401, MEE 409) or permission of instructor. Corequisite(s): MEE 431L.

## MEE 427. Mech Design I. 3 Hours

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 gears, shafts, bearings and springs. Prerequisite(s): EGM 303; MEE 321. Corequisite(s): MEE 431L.

## MEE 428. Mech Design II. 3 Hours

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(s): MEE 427.

## MEE 430. Biomechanical Engr. 3 Hours

BIOMECHANICAL ENGINEERING - Application of engineering principles to clinical, occupational, and sports biomechanics topics. The course focuses on biomechanical analysis, particularly kinematics and kinetics of human movement, with emphasis on both research and product design.

## MEE 431L. MultiDisplayEngrDsgn I. 1 Hour

MULTIDISCIPLINARY ENGINEERING DESIGN LABORATORY I Multidisciplinary team design projects applying general mechanical engineering knowledge. Product development using product realization process (PRP) including: proposal development; design specifications, conceptualization and decision analysis. Projects normally result in a final design and prototyping in a follow-on course. Projects supplemented with an introduction to mechanical components and Computer Aided Engineering (CAE) methods. Corequisite(s): MEE 425 or MEE 427.

## MEE 432L. Mltdspy Egr Ds Lb II. 3 Hours

MULTIDISCIPLINARY ENGINEERING DESIGN LABORATORY II - One hour lecture and five hours of lab per week. Focus of the lecture is on engineering project management, including communication, collaboration, project tracking methods, cost estimating, overhead, direct labor, time value of money, depreciation and return on community based sponsors. Detailed evaluation of the Product Realization Process focusing on conceptual design, embodiment design, final design and prototyping. Analysis of the design criteria for safety, ergonomics, environment, cost and sociological impact. Periodic oral and status reports. Culminates in a comprehensive written report and oral presentation. Prerequisite(s): MEE 425 or MEE 427.

## MEE 433. Proj Mangmt\&Innvotn. 1 Hour

PROJECT MANAGEMENT AND INNOVATION - Introduces students and teams to project management, entrepreneurship, and innovation. Topics include project management,cost estimating, time value of money, patent law, marketing, finance, and business plan development. Prerequisite(s): Junior status.

## MEE 434. Mechatronics. 3 Hours

MECHATRONICS - Emphasis on the integration of sensors, microcontrollers, electromechanical actuators, and control theory in a 'smart' system for a semester long design project. Topics include: sensor signal processing, electromechanical actuator fundamentals, interfacing of sensors and actuators to micro-controllers, digital logic, and programming of micro-controllers, programmable logic controllers and programmable logic devices. Equal mix of lecture and laboratory. Prerequisite(s): ECE 323.

## MEE 438. Robotcs\&Flexble Manf. 3 Hours

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. Prerequisite(s): MEE 321.

## MEE 439. Dynamic Sys \& Conrls. 4 Hours

DYNAMIC SYSTEMS AND CONTROLS - Dynamic systems modeling with special emphasis on mechanical systems (one and two degrees of freedom). Covers both transfer function and state space modeling techniques. Analogues drawn between mechanical, electrical, fluid, and thermal physical domains. System nonlinearities and model linearization methods are discussed. Analytical solutions of linear ordinary differential equations using Laplace transformation and state space theory.
Feedback control theory, including root locus and frequency response techniques. Prerequisite(s): EGM 202; MTH 219.

## MEE 440. Flight Vehicle Perf. 4 Hours

FLIGHT VEHICLE PERFORMANCE - This course is intended to introduce the student to the flight mechanics of aerospace vehicles. Some familiarity with aircraft performance, static stability and control is assumed, but not required. We will use modern analysis methods to develop the topical details including: 1) a study of aerodynamics involved in-flight vehicle motion to obtain an understanding of influence coefficients; 2) use of linear algebra to develop a rational approach to modeling aircraft dynamics; 3) an introduction to modern control theory methodology; and 4) problems and examples that illustrate the use of desktop computational tools currently available. Prerequisite(s): (EGM 202; MEE 401, MEE 225; MTH 219) or permission of instructor.

## MEE 460. Engineering Analysis. 3 Hours

ENGINEERING ANALYSIS - Case study approach to engineering problem solving. Emphasis on breaking down problems to tractable parts, modeling physical systems and selection of solution techniques. Problems related to thermal, fluid, structural, and dynamic systems. Problems typically involve solution of ordinary and partial differential equations, Fourier analysis of periodic behavior, simulation, optimization and/or statistical analysis. Analytical and numerical solution techniques, with an emphasis on selecting the most appropriate technique and understanding the limitations of the analysis. Prerequisite(s): MEE 410.

## MEE 471. Des-Thermal Systems. 3 Hours

DESIGN OF THERMAL SYSTEMS - This course integrates thermodynamics, heat transfer, engineering economics, and simulation and optimization techniques in a design framework. Topics include design methodology, energy analysis, heat exchanger networks, thermal-system simulation and optimization techniques.

## MEE 472. Des-Environment. 3 Hours

DESIGN FOR ENVIRONMENT - Emphasis on design for environment over the life cycle of a product or process, including consideration of the mining, processing, manufacturing, use, and post-life stages. Course provides knowledge and experience in invention for the purpose of clean design, life cycle assessment strategies to estimate the environmental impact of products and processes, and cleaner manufacturing practices. Course includes a major design project.

## MEE 473. Renewable Energy Sys. 3 Hours

RENEWABLE ENERGY SYSTEMS - Introduction to the impact of energy on the economy and environment. Engineering models of solar thermal and photovoltaic systems. Introduction to wind power. Fuel cells and renewable sources of hydrogen.

## MEE 478. Energy Eff Manufact. 3 Hours

ENERGY EFFICIENT MANUFACTURING - This course presents a systematic approach for improving energy efficiency in the manufacturing sector. Current patterns of manufacturing energy use, the need for increased energy efficiency, and models for sustainable manufacturing are reviewed. The lean-energy paradigm is applied to identify energy efficiency opportunities in industrial, electrical, lighting, space conditioning, motor drive, compressed air, process heating, process cooling, and combined heat and power systems. Prerequisite(s): (EGR 202 or equivalent) or permision of instructor.

## MEE 490. Special Topics. 3 Hours

SPECIAL TOPICS IN MECHANICAL AND AEROSPACE ENGINEERING - Particular assignments to be arranged and approved by the department chairperson.

## MEE 493. Honors Thesis. 3 Hours

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.

## MEE 494. Honors Thesis. 3 Hours

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. Prerequisite(s): MEE 493.

## MEE 498. Research\&Innvtn Lab. 1-6 Hours

RESEARCH AND INNOVATION LABORATORY - Students participate in (1) selection and design, (2) investigation and data collection, (3) analysis, and (4) presentation of a research project. Research can include, but is not limited to, developing an experiment, collecting and analyzing data, surveying and evaluating literature, developing new tools and techniques including software, and surveying, brainstorming, and evaluating engineering solutions and engineering designs. Proposals from teams of students will be considered.

MEE 499. Special Problems. 1-6 Hours
SPECIAL PROBLEMS IN MECHANICAL AND AEROSPACE
ENGINEERING - Particular assignments to be arranged and approved by department chairperson.
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[^0]:    1 Each composition major must present one and a half recitals of original work by the senior year.

[^1]:    EOP 501 Geometric Optics

