ColleGE OF ARTS AND SCIENCES

ACTUARIAL SCIENCE

ACTUARIAL SCIENCE uses mathematical and statistical methods to assess and manage risk. A growing number of industries—including finance and insurance—rely on actuarial methods while providing services for financial security and peace of mind regardless of the uncertainty of daily life. Students develop business and finance skills, integrated with mathematics and statistics, to be ready to apply rigorous solutions to actuarial science problems in finance, insurance and investment.

Bachelor in Science (BS) in Actuarial Science:

► The four-year program includes foundational materials, plus preparation and completion of the first two actuarial exams (P and FM); Validation by Education Experience (VEE) credits in the actuarial field for five courses in three areas of experience; and additional preparation for a third actuarial exam.

The Xavier Advantage:

► Gain practical experience through internships at companies such as Towers-Watson, Liberty Mutual, WellPoint and Ohio National Financial Services.

► Meet actuaries in professional settings at a variety of companies to explore career opportunities.

► Form study cohorts to prepare to complete two actuarial exams before graduation.

► Join the national honor society for mathematics, Pi Mu Epsilon.

► Study with an interdisciplinary faculty in mathematics, computer science and finance with the expertise to launch students into this quickly growing career field.

Xavier graduates go on to:

► Liberty Mutual
► Ohio National Financial Services
► Cincinnati Life Insurance
► Financial services and consulting

Learn more www.xavier.edu/actuarial-science
Ask us xuadmit@xavier.edu
Visit campus www.xavier.edu/visit

XAVIER UNIVERSITY: A JESUIT CATHOLIC UNIVERSITY IN CINCINNATI, OHIO
THE PROGRAM

The Actuarial Science program was launched in 2011 by the Department of Mathematics and Computer Science, with collaboration from the Department of Finance in the Williams College of Business. The new major is designed to meet the nationally growing need for the employment of actuaries, and is supported by interdisciplinary expertise from Xavier’s mathematics, computer and business faculty.

A steering committee, including members of the Department of Mathematics and Computer Science and a representative from the Department of Finance, oversees the actuarial science program and handles advising, program assessment, and curriculum planning and adjustment.

The four-year program includes traditional foundational studies, plus preparation and completion of the first two actuarial exams, earning of additional educational experience credits, and preparation for a third actuarial exam. Students will sharpen mathematical problem-solving skills to analyze actuarial science problems with rigor; learn technology to use to solve actuarial science problems; and develop business and finance skills that integrate with mathematics and statistics.

RESOURCES

The Department of Mathematics and Computer Science is housed in Hinkle Hall, the campus facility that’s modeled after the Xavier family castle in Navarre, Spain.

Faculty members have earned doctoral degrees from distinguished institutions around the nation. They have served as principal investigators on National Science Foundation grants, and received awards and fellowships to create new courses and related academic initiatives.

With introductory classes of typically 20 students and smaller upper-level classes, personalized attention and faculty expertise are readily available. Each student receives individual counseling from members of the department. The faculty believes that the best teaching can be done only when there is close faculty-student interaction for discussion, thinking and exploring.

Students have opportunities to intern at companies and to meet actuaries in a range of fields with various responsibilities. Exam preparation includes building relationships in study cohorts, and program technology skills are related directly to the actuarial sciences.

THE COLLEGE & THE CITY

The College of Arts and Sciences is the oldest and largest college at Xavier University. Its goal is to provide excellent liberal arts education in the Jesuit tradition that prepares students for careers, professional or graduate school, and life in a global society.

Centrally located in the heart of the Midwest and set along the Ohio River, Cincinnati is a thriving city, offering college students in the region a wide range of opportunities for internships and careers. Culture and entertainment ranges from the Cincinnati Art Museum to the Cincinnati Reds. Affordable and accessible, Cincinnati is rated one of the “most wired” U.S cities (Forbes Magazine), most sociable city in the world (mashable.com), and one of the top 15 U.S. cities to live and work (Fortune Magazine).

OUTCOMES

Employment of actuaries is expected to increase by 21 percent through 2018, faster than the average for all occupations according to the U.S. Bureau of Labor Statistics. The insurance industry—the largest employer of actuaries—will experience some growth, but greater job growth will occur in other industries, such as financial services and consulting.

Graduates from the Department of Mathematics and Computer Science have gone on to actuarial careers at such major employers as:
- Liberty Mutual
- Ohio National Financial Services
- Cincinnati Life Insurance

Skills in the actuarial sciences are documented through a series of professional actuarial exams. The first two exams are common to the entire field, which splits itself broadly into the areas of casualty insurance and life insurance.

Upon successful completion of the program, students will have:
- Studied the foundational content of the field, including material that prepared them for the first two actuarial exams (exams P and FM).
- Accumulated Validation by Educational Experience (VEE) credits for Applied Statistical Methods (MATH 256 and MATH 257), Economics (ECON 200 and ECON 201) and Business Finance (FINC 300).
- Taken courses that begin their preparation for the third actuarial exam.

WILLIAMS COLLEGE OF BUSINESS

The Williams College of Business (WCB) is nationally recognized for its outstanding educational experiences and the success of its students and faculty. The WCB is accredited by the Association to Advance Collegiate Schools of Business (AACSB), an international organization. Only 15 percent of business schools worldwide achieve this distinction. In 2010-11, the WCB was ranked:
- 11th in the U.S. in Entrepreneurship, undergraduate programs, by Entrepreneur Magazine
- 10th in the U.S., in Ethics, undergraduate programs, Bloomberg BusinessWeek

The WCB’s new building, Stephen & Dolores Smith Hall, was opened in 2010 to provide a state-of-the-art setting for one of the nation’s top-ranked business schools. The WCB is one of the nation’s first colleges to offer a mentor program that pairs undergraduate and MBA students with leading executives to network and establish connections in the business world. The program offers an innovative approach, ensuring that WCB students have a viable and effective network of notable professional contacts assisting them in their career endeavors.
CORE CURRICULUM
The foundation of Xavier’s success is its commitment to its Jesuit heritage. The Core Curriculum embodies Xavier’s mission and philosophy of education and serves as a valuable foundation for all undergraduate students. Within the Core, the four-course Ethics/Religion and Society (E/RS) Focus fosters students’ understanding of socially significant issues through study of the humanities, especially literature, philosophy and theology, as well as the social and natural sciences. Along with courses in their major, Xavier students also take Core courses in: cultural diversity, English composition, fine arts, foreign language, history, literature, mathematics, philosophy, science, social science and theology.

ACADEMIC REQUIREMENTS
Core Curriculum: Minimum 64 credit hours

Major in actuarial science: 57 hours, including 30 hours of mathematics, including calculus I-III, differential equations, linear algebra, introduction to probability and statistics, probability, and statistical inference, plus courses in computer science, economics, accounting, finance, actuarial mathematics, and either introduction to actuarial science or data modeling. Students must successfully pass one actuarial exam prior to the final semester in the program, or complete an appropriate project under the supervision of a faculty mentor and present to the faculty of the department.

Students are prepared to take the first actuarial exam (P), upon completion of the probability course, and the second actuarial exam (FM), upon completion of the third finance course.

FOR MORE INFORMATION
OFFICE OF ADMISSION
Phone: 513-745-3301
877-XUADMIT (982-3648)
Fax: 513-745-4319
Email: xuadmit@xavier.edu
Web: www.xavier.edu

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE
Gary Lewandowski, PhD, Chair
Phone: 513-745-2836
Email: lewandow@xavier.edu
Web: www.xavier.edu/actuarial-science
On Campus: 109 Hinkle Hall

Xavier is an equal opportunity educator and employer. Information in this brochure is correct as of 8/11.