

# Actuarial Science

**PROGRAM OVERVIEW** Drake provides one of the few private university actuarial science majors in the Midwest with a full set of actuarial science courses taught by actuaries. The program strives to provide high-quality, undergraduate-level preparation for students planning careers in the actuarial profession.

Actuarial science majors at Drake learn to solve problems created by retirement, unemployment, accident, death and other contingencies of life. Actuaries combine the skills of a scientist, mathematician, business executive and sociologist. After graduation, students are prepared to be business leaders in the financial services industry and are thoroughly grounded in the technical skills required for actuarial work.

Because of its location in the College of Business and Public Administration, our graduates are particularly well-equipped to use their actuarial problem solving skills in a business context. Graduates of the program should clearly meet the entry-level expectations of the leading insurance companies and consulting firms. As such, they should be prepared to be successful on the early professional examinations of the Society of Actuaries and the Casualty Actuarial Society. In addition, they should understand the manner in which this knowledge relates to the business of insurance and be able to solve less structured problems and coherently present their solutions.

The available courses prepare students for the first five examinations of the Society of Actuaries and Casualty Actuarial Society. These courses also enable students to obtain credit for the three Validation by Educational Experience subjects introduced in 2005. Students typically are ready to take their first examination after two or three semesters, and their second exam after three to four semesters.

**FACULTY** One faculty member has full-time duties teaching and advising in the actuarial program. Four other faculty members support the program. Currently four faculty members have professional actuarial designations. Among the accomplishments of these faculty members are Teacher of the Year awards, textbook publication (including one used as a primary reference for an actuarial exam), officers in national organizations, numerous research paper publications, and service on actuarial exam committees. Two of the faculty members hold externally sponsored professorships.

**ACADEMIC PREPARATION** A student is most likely to succeed if pre-calculus has been taken in high school. Students can begin taking actuarial science courses after completing Calculus II. A typical schedule emphasizes mathematics, computer science and statistics. The first-year curriculum should include as much calculus as the student is able to take, based on high school preparation.

**REQUIREMENTS FOR MAJOR** Students begin with Calculus I-III which provides the mathematical basis for actuarial work. This is followed with four semesters of probability and statistics. These courses provide general modeling skills. At the same time, courses in finance and

interest theory provide the needed background in investments. These skills are combined in the two semester actuarial mathematics sequence where specific actuarial problems are addressed.

*Joint Major* The joint major in actuarial science and finance provides students with an opportunity to study two subjects that require somewhat similar skills. The goal of the program is to provide students in four years with the essential skills required in both fields.

Students who complete this program are particularly suited to pursue careers in the financial services industry where the emphasis is on the management of financial assets and liabilities. This includes the insurance industry with its emphasis on asset management and variable products, and the banking industry with its emphasis on the management of interest rate risk.

For students planning to complete professional actuarial examinations, the finance courses cover several topics that appear on the advanced examinations.

**DRAKE CURRICULUM** The Drake Curriculum, required of all undergraduates, is designed to help students meet personal and professional goals as they acquire fundamental knowledge and abilities in ten Areas of Inquiry, including communication, critical thinking, artistic experience, historical consciousness, information and technology literacy, international and multicultural experiences, scientific and quantitative literacy, values and ethics and engaged citizenship. Students work closely with their academic advisers to craft a program of study in general education that prepares students for civic and professional leadership.

The Drake Curriculum also requires first-year seminars, which foster development of critical thinking and written and oral communication skills through a topical focus; and a Senior Capstone, in which students demonstrate the capacity to bring information, skills and ideas to bear on one project.

**INTERNSHIPS & OPPORTUNITIES** Des Moines is one of the nation's insurance centers. Our students have access to paid school-year internships with local companies such as American Republic, AVIVA, USA, Farm Bureau, GuideOne, Nationwide, Allstate, Ameriprise, CIGNA, Hewitt Associates, Mercer, Mutual of Omaha, Towers Perrin Principal Financial Group, and Wellmark. No academic credit is given for these internships. These experiences augment the classroom experience and allow students to apply their knowledge and skills in a real-world setting. Summer internships are available throughout the U.S.

The Adams/Bowers Actuarial Education Center contains computers and examination study guides for student use. Exam review classes are regularly held there.

**CAREER OPTIONS** Almost all graduates enter the actuarial field either as consultants or as insurance company employees. Opportunities are available in most major cities in the U.S.

**HONORS** In May of each year, the Actuaries Club of Des Moines selects a senior actuarial student who has been judged outstanding to receive the Floyd S. Harper Award. The graduating student who has passed the most professional examinations is given the Barry Dresden Goldberg award.

**STUDENT ORGANIZATIONS AND ACTIVITIES** The Drake Actuarial Student Society provides professional and social opportunities for students considering an actuarial career. Each fall they sponsor a career fair with 25-30 actuarial employers represented.

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## HOW TO REACH US

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