

Career Connections

Actuarial Science

OBJECTIVES OF THE PROGRAM

The Actuarial Science Career Connections program is intended to encourage students to take advantage of some of the opportunities available to explore and experience the actuarial profession, and to learn about their own interests relative to it. Through exploratory activities, course work, co-curricular involvement and work experience, they will gain both insight and skills that will serve them well as they embark on a career as an actuary.

Professional actuaries specialize in the evaluation of risk within the context of life, health and casualty insurance, and employment benefits. They are business executives who design and analyze programs to meet the insurance needs of society, evaluating the financial risks assumed by the companies that offer such programs. For example, an actuary may calculate how much a homeowner should pay for home insurance.

Job rating services generally rate actuary as one of the most desirable professions. Despite this ranking, it is an intellectually demanding field. Aspiring actuaries are expected to pass a series of examinations administered by the Society of Actuaries. These examinations test the participants on their knowledge of mathematics, statistics, economics, business, and legal matters concerning the insurance profession. Successful completion of a series of ten examinations leads to a Fellow of the Actuarial Society. The goal of this program is to prepare individuals to sit for the first two examinations. Successful completion of even one examination assures students, in the present job market, internships and a well-paying job upon completion of their degree. It will also help prospective graduate students to be accepted to their school and program of choice.

RECOMMENDATIONS

Exploring Options

Only students with a strong aptitude in mathematics should consider a career in Actuarial Science. Possession of such an aptitude, however, does not automatically assure that it is a good career choice. The Career Center offers the Campbell Interest and Skill Survey that can help students to assess their interests. The Center also has many sources of information on the field. The websites of the Society of Actuaries, www.soa.org, and of the Casualty Actuarial Society, www.casact.org, also provide useful information. Finally, the Mathematics Club will sponsor visits by actuaries from time to time. Interested students should attend their talks and speak with them about the field.

Academics

Actuaries must have a strong background in mathematics and statistics. Computer science courses such as programming and databases are also useful. They also need verbal, writing, oratory and social skills, a knowledge of business and economics, and a keen sense of values and fair play. In other words, the preparation for a career in actuarial science is commensurate with the goals of a liberal arts education.

Examinations: The first examination in the series is titled Mathematical Foundations of Actuarial Science. The preparatory courses for this exam are:

- Calculus: MAT 121, 122, 221.
- Probability: MAT 327.
- Mathematical Statistics: MAT 217, 437.

It is also recommended that students complete a course in Linear Algebra, MAT 224. Students who begin the course work as freshman should be ready to sit for the first examination at the end of their sophomore year.

Students should also complete courses in Micro and Macro Economics (ECO 113, 114) in preparation for the second examination. Study for the second examination can begin after they have passed the first one.

Co-Curricular Activities

While passing the actuarial exams is the key to finding employment in the field, participation in co-curricular activities in college can provide students with an opportunity to explore their aptitude for data analysis and computer science. For example, working in the Math Center as a tutor will help students' own understanding of the material covered by the examination. Participation in activities in which they develop and analyze spreadsheets, such as serving as treasurer of an organization with a large budget, will also help in the development of relevant computer and analytical skills. Serving as a risk manager for one's fraternity or sorority will acquaint students with the insurance industry. Computer lab assistants have the opportunity to become familiar with computer software including database and spreadsheet applications. As strong communication skills are becoming increasingly valued in actuarial science, students should seek out leadership activities to develop in this area. For example, they can both develop interpersonal skills and become familiar with providing advice on financial issues while serving as a Volunteer Income Tax Assistant.

Internships

Summer internships are readily available in the field of actuarial science. These internships pay well and some, CNA for instance, also provide housing in the dormitories of local colleges. Many interns are hired by their host firm upon graduation. Any student

who has passed an examination is virtually guaranteed an internship. A valuable source of information on summer internships is recent graduates and current students who have held summer internships. Students seeking contact names or academic credit for internships should contact the Internship Coordinator in the Career Center. The Mathematics Department also retains and continually updates a list of companies that offer actuarial internships.

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