DISCOVER ACTUARIAL SCIENCE AT PACIFIC

Actuaries are professionals who measure the cost of risk and manage it. They use their knowledge of mathematics, statistics, finance and business management to help leaders make strategic decisions and consumers prepare for the future.

It is consistently one of the most secure and highest-paying professions available, even during tough economic times. This program offers an opportunity for students to develop the skills expected of entry-level actuaries, equipping them with the tools to help companies and businesses better anticipate and manage risk.

The program also prepares students to take up five professional actuarial credentialing exams administered by the Society of Actuaries: Exam P, Exam FM, Exam IFM, Exam LTAM and Exam STAM.

THE MAJOR

Pacific is home to the only actuarial science program in Northern California, and students who major in our program are provided opportunities to develop strong problem-solving skills that use quantitative methods and appropriate technology. They understand the strengths, limitations and wide applicability of mathematical modeling in a variety of disciplines. The actuarial science major provides students with the necessary background coursework for a career as an actuary.

THE EXPERIENCE

The actuarial science major in the Department of Mathematics, is a close-knit community that focuses on providing a student-centered education. With the mentorship of dedicated professors, students can develop their mathematical reasoning, communication, problem-solving skills, knowledge and learn how to apply them.

THE OUTCOMES

A career in actuarial science is one of the best options that a student with talent and interest in mathematics, statistics, economics and finance can pursue. It was ranked the #2 Best Business Job of 2018 by US News. Pacific is one of only four schools in California to offer an advanced undergraduate program in actuarial science.

STUDENT VOICE

“I’ve always liked games where I manage money or just managing my money in general. I always like seeing that money grow. Actuaries typically work for insurance companies and they determine rates, how much they can spend, etc. So, it just seemed like a natural fit.”

Matthew Leong ’20
B.S. Actuarial Science
**OVERVIEW**

**Degrees Offered**
Bachelor of Science

**Majors Offered**
Actuarial Sciences (BS)

The primary purpose of actuaries is to analyze the financial costs of risk and uncertainty. Actuaries use mathematics, statistics, and financial theory to assess uncertain future events, especially those of concern to insurance and pension programs, and they help businesses and clients develop policies that minimize the cost of that risk.

Actuaries work in a variety of industries including banking, e-commerce, energy, enterprise risk management, insurance, marketing, employee benefits, or really any organization that needs to manage financial risk.

Actuaries describe their work as challenging and interesting and generally enjoy a good working environment. The Jobs Rated Almanac has consistently rated “Actuary” as one of the top two or three jobs on a variety of factors.

Several studies have shown that the profession is more open than others to women and members of under-represented minority groups.

According to CareerCast, actuaries will be in high demand over the next decade with a nationwide projected growth rate of 18% and 33% in California. Recruiting firm D.W. Simpson reports starting salaries range from $51,000 to $64,000. The 2017 mean salary of actuaries in California was $117,000, according to the U.S. Bureau of Labor Statistics.

**FACULTY**

**Syed Hossain**, Professor of Practice and Program Director
**Larry Langley**, Associate Professor and Chair
**Aleksei I. Beltukov**, Associate Professor
**Mouchumi Bhattacharyya**, Professor
**Jialing Chan**, Associate Professor
**Alex Dugas**, Assistant Professor
**Christopher Goff**, Professor
**Kevin Lamb**, Assistant Professor
**John Maybeny**, Associate Professor
**Sarah Merz**, Professor
**Dennis Parker**, Associate Professor
**Keith E. Whittington**, Professor

Every effort has been made to compile an accurate list, but changes may occur at any time. Please visit the University’s General Catalog at pacific.edu/catalog.

**ACTUARIAL COURSES**

**Busi 031** Principle of Financial Accounting. 4 units
**Busi 033** Principles of Managerial Accounting. 4 units
**Busi 123** Investment Analysis. 4 units
**Busi 125** Intermediate Financial Management. 4 units
**Busi 113A** Intermediate Accounting I. 4 units
**Busi 113B** Intermediate Accounting II. 4 units
**Comp 51** Introduction to Computer Science. 4 units
**Econ 53** Introductory Microeconomics. 4 units
**Econ 55** Introductory Macroeconomics: theory and Policy. 4 units
**Econ 190** Econometrics. 4 units
**Math 37** Introductory Statistics. 4 units
**Math 51** Calculus I. 4 units
**Math 53** Calculus II. 4 units
**Math 55** Calculus III. 4 units
**Math 57** Differential Equations. 4 units
**Math 75** Linear Algebra. 4 units
**Math 121** Financial Mathematics I. 3 units
**Math 122** Financial Mathematics II. 3 units
**Math 130** Topics in Applied Statistics I. 3 units
**Math 131** Mathematical Statistics I. 4 units
**Math 132** Mathematical Statistics II. 4 units
**Math 133** Topics in Applied Statistics II. 3 units
**Math 124** Advanced Financial Mathematics. 4 units
**Math 125** Actuarial Models I. 3 units
**Math 126** Actuarial Models II. 3 units
**Math 127** Models of Life Contingencies I. 4 units
**Math 128** Models of Life Contingencies II. 4 units
**Math 145** Applied Linear Algebra. 4 units
**Math 191** Independent Study. 2-4 units
**Math 197** Undergraduate Research. 2-4 units