

# ACTUARIAL SCIENCE CERTIFICATE

---

Program Contact: Jill Shahverdian 203-582-3663

## Program Overview

The Actuarial Science Certificate is designed to provide students with the knowledge and skills needed to sit for the first actuarial exam. Actuaries use mathematics, statistics, and financial theory to quantify and analyze risk. They work in many industries, including insurance, retirement planning, finance, government, and healthcare. The path to becoming a credentialed actuary typically takes 7-10 years after graduation and requires passing a series of professional exams administered by the Society of Actuaries and the Casualty Actuarial Society. Passing one or two exams as an undergraduate is strongly recommended.

## Student learning outcomes

- Students will understand calculus-based concepts of probability.
- Students will understand discrete and continuous univariate distributions.
- Students will be able to select and apply appropriate probability distributions to model real and theoretical scenarios.
- Students will be able to calculate statistics to describe the relationship between two or more random variables.

As an institution, we aim to prepare students for a 21st-century career and to foster lifelong learning. The Actuarial Science Certificate prepares students to sit for the first actuarial exam, the initial step towards a career as an actuary. Becoming an actuary requires several years of exams and study; the process demands a desire for life-long learning and reinforces a growth mindset.

## Required Courses

Code	Title	Credits
MA 151	Calculus I	4
MA 153	Calculus II: Part A	2
MA 371	Mathematical Statistics and Probability I	3
Test Preparation		1
<b>Total Credits</b>		<b>10</b>