Actuarial Science (BA)

Admission Requirements

Prerequisite Requirements for BA:

- **ENG4U, MHF4U,**
- **Recommended:** MCV4U
- **Expected minimum admission average:** high 70s – mid 80s

Program Overview

Actuarial Science is the area of mathematics that applies quantitative methods to assess risks in the insurance and finance industries. Actuarial Science is a collection of courses spanning such areas as:

- **Mathematical analysis**
- **Probability theory**
- **Statistics**
- **Actuarial science**
- **Finance**
- **Economics**

We offer a Specialized Honours BA in Actuarial Science, an Honours BA in Actuarial Science, and A Professional Certificate in Actuarial Science. The two Honours degrees (typically four years of full time studies plus internship terms) are a great option for students who are willing to have comprehensive undergraduate training in mathematics with specialization in Actuarial Science. The Professional Certificate option (typically two years of studies) is for York students who major in other than Mathematics disciplines, and are interested in an insurance-related career; the certificate is also a good choice for 'career changers' who hold a University degree with a strong quantitative basis and seek employment in the insurance industry.

First Year Actuarial Science Major Courses:

- Calculus
- Statistics
- Problems, Conjectures and Proofs
- Computing for Math and Statistics
- General Education Course

Second Year Actuarial Science Major Courses:

- Elementary Probability
- Statistics II
- Intermediate Economic Theory I and II
- Mathematical Theory of Interest
- Financial Economics
- Calculus of Several Variables with Applications
- Linear Algebra
- General Education Course

Upper Year Actuarial Science Major Course Options:

- Mathematics of Life Contingencies
- Risk Theory
- Mathematical Statistics
- Regression Analysis
- Scientific Computing for Financial Applications
- Stochastic Processes
- Corporate Finance
- Time Series Analysis

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Experiential Education

The Faculty of Science provides a rich diversity of opportunities for undergraduate students to engage in Experiential Education. The Internship Program provides students in this program with the opportunity to integrate their classroom learning with hands-on, paid, work experiences related to their field of study. Internship students will begin their work term(s) after their third year of classroom study and can take part in 4, 8, 12, or 16 months of work before returning to school to complete their studies.

Here are just a few of the companies you could have the opportunity to work for:

- Sanofi Pasteur
- Health Gene Corporation
- Parks Canada
- City of Toronto
- Grande Prairie Regional College

Visit yorku.ca/science/students/experiential-education/ for more information.

Career Pathways for Actuarial Science

This program is specifically designed for students striving to attain the Associate designation of the Society of Actuaries but still gives graduates opportunities in other fields including:

- Actuary
- Operations Research and Optimization
- Accountant/Financial Advisor/Financial Analyst
- Data Analyst
- Statistician
- Education – elementary, high school, college, university
- Post Graduate Studies/Academic Career