Admission Requirements

Actuarial Science (BA)

Prerequisite Requirements for BA:
- ENG4U, MHF4U
- Recommended: MCV4U

Expected minimum admission average: Low 80s

<table>
<thead>
<tr>
<th>If you major in Actuarial Science your courses in first year will probably be:</th>
<th>In second year you will probably take:</th>
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<tr>
<td>- Calculus</td>
<td>- Elementary Probability</td>
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<td>- Statistics</td>
<td>- Statistics II</td>
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<td>- Problems, Conjectures and Proofs</td>
<td>- Intermediate Economic Theory I and II</td>
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<td>- Computing for Math and Statistics</td>
<td>- Mathematical Theory of Interest</td>
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<td>- General Education Course</td>
<td>- Financial Economics</td>
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<td>- Elective experience</td>
<td>- Calculus of Several Variables with Applications</td>
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Career options for Actuarial Science majors include:
- Actuary
- Operations Research and Optimization
- Accountant/Financial Advisor/Financial Analyst
- Data Analyst
- Statistician
- Education – elementary, high school, college, university
- Post Graduate Studies/Academic Career

Courses you might take in upper years include:
- Mathematics of Life Contingencies
- Risk Theory
- Mathematical Statistics
- Regression Analysis
- Scientific Computing for Financial Applications
- Stochastic Processes
- Corporate Finance
- Time Series Analysis
Why study Actuarial Science at York?

Actuarial Science is the area of mathematics that applies quantitative methods to assess, price and mitigate financial risks. It became a formal discipline in the late 17th century, when the increased demand for such long-term insurance coverages as life insurances, annuities, and burial expense coverages emerged. Since then and for a long time, actuaries have been interested in studying the value of future financial obligations as well as the associated risk in the contexts of life and health insurance, property and casualty insurance, pension funds and social wealth-fare programs. Today actuaries are also being increasingly employed in the areas of enterprise risk management, and even in general finance and investment.

In North America, the standard way to become an actuary is to pass the examinations set and administered by either the Society of Actuaries or the Casualty Actuarial Society. University courses are not accepted in place of these examinations, but university courses do prepare you to write the exams. Upon completing the Specialized Honours Actuarial Stream, you will be prepared to write the quantitative certification exams leading to the Associate designation of the Society of Actuaries (A. S. A.).

In Canada most actuaries work for insurance companies, both life and non-life, and consulting firms. To carry out their duties, actuaries must be thoroughly familiar with all aspects of the business. Accordingly, it is expected that they will attain top executive positions in the company. In addition, a relatively new area for the employment of actuaries is the banking industry and enterprise risk management. Other opportunities include employment with governments (both federal and provincial) and teaching and research at universities.

There are many rewards for the successful actuary. Salaries are high and compare favourably with other professions. The work is challenging and stimulating. In addition there are the personal benefits that arise from membership is a small and highly respected professional group.

Program Overview

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.

Facilities and Opportunities at York University and Beyond

Your studies in Actuarial Science at York will take place in energetic classes and tutorials, taught by fifty full-time faculty members, whose teaching and research interests span the spectrum of mathematical studies today. Our strong academic support system includes the Math and Statistics Tutorial Labs and the Peer Study Group program to bolster your mathematical understanding and confidence. Club Infinity, York’s mathematics club offers social and intellectual exchanges with your peers. The Actuarial Students’ Association at York (ASAYU) organizes study groups, peer advising, networking, and the annual Actuarial Convention. The Department of Mathematics & Statistics at York supports its Actuarial students who enter and achieve highly in international mathematics contests, such as the Putnam Competition and the Mathematical Contest in Modelling.
Experiential Education

The Faculty of Science provides a rich diversity of opportunities for undergraduate students to engage in Experiential Education. Students can explore the ideas covered in class through a variety of experiences – whether they are in the classroom, in a lab, working in a community organization or a private sector firm.

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 /science.yorku.ca/current-students/ee/ for more information

Research Opportunities

Advance your knowledge by gaining research experience outside the classroom. Students are able to learn advanced lab skills, use sophisticated lab equipment, interact with graduate students, gain in-depth knowledge in a particular field, and actually contributes to the advancement of scientific knowledge.