

Statistics (BA, BSc)

Admission Requirements

Prerequisite Requirements for BA:

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

Prerequisite Requirements for BSc:

- ENG4U, MHF4U, SBI4U or SCH4U or SPH4U
- Recommended: MCV4U
- Expected minimum admission average: high 70s – mid 80s

Program Overview

Studying statistics at York puts you right at the centre of a diverse intellectual community dedicated to developing your advanced critical thinking and analytical skills. At York you will study with award-winning professors and choose from an innovative curriculum designed to give you the skills to understand the power and elegance of abstract reasoning and to appreciate the role of mathematics in human culture and the sciences. Your professors work to help you learn the basic material of the course, to understand how and why this material was developed and to know how to apply it. Through problem solving, you will acquire skills in critical thinking and logistical analysis that will serve you in many careers, particularly those that demand a sound understanding of statistics.

The Statistics program provides students with the basic conceptual tools and the practical training to analyse data, explain it, and draw inferences for future events. At the end of this program, students should also be able to use and understand certain statistical software packages commonly used in industry. The Statistics program at York will give you skills for almost every branch of professional and research work. Your studies will begin with core courses in **calculus, problems, conjectures & proofs, statistics, probability, computing and linear algebra, and move into advanced work in data analysis, survey sampling, multivariate statistical analysis, and experimental design.** You will easily be able to combine your studies in Statistics with other studies in the life, physical or social sciences, economics, administrative studies or environmental studies.

First Year Statistics Major Courses:

- Calculus
- Statistics
- Problems, Conjectures, and Proofs
- Computing for Math and Stats
- One of Biology, Chemistry, Physics, or Earth & Atmospheric Science (BSc students only)
- General Education Course(s)

Second Year Statistics Major Courses:

- Linear Algebra
- Calculus of Several Variables with Applications
- Elementary Probability
- Statistics II
- One of Biology, Chemistry, Physics, or Earth & Atmospheric Science (BSc students only)

Upper Year Statistics Course Options:

- Categorical Data Analysis
- Sample Survey Design
- Classical Regression Analysis
- Mathematical Statistics
- Applied Multivariate Statistical Analysis
- Experimental Design
- Mathematical Analysis
- Topics in Applied Statistics

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 Statistics

The Statistics programs is an excellent preparation for students who wish to pursue graduate studies or a career in teaching. A list of some possible careers through this degree are:

- Accountant, Financial Auditor, Actuary, Financial Analyst
- Applied Science Technologist, Quality Control Analyst
- Operations Research and Optimization, Industrial and Scientific Research
- Biometrician, Biostatistician
- Cryptologist, Cryptographer Computer Programmer/Systems Analyst
- Demographer
- Economist (Mathematical)
- Mathematician, Statistician
- Education – elementary, high school, college, university
- Post Graduate Studies/Academic Career