Statistics

BA, BSc | www.yorku.ca/science/mathstats/statistics

Admission Requirements

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

BSc
- ENG4U, MHF4U, SBI4U or SCH4U or SPH4U
- **Recommended:** MCV4U
- **Minimum admission average:** high 70s – mid 80s

Program Overview

Statistics has been called the coolest job you've never heard of. A statistician is a highly trained scientist who combines their statistical, computational, and mathematical training to solve real-world problems related to data. Statisticians work in diverse fields such as climate change, medical research, pharmaceuticals, big tech companies, political campaigns, hospitals, insurance, banking, and more. Even the UN and the Toronto Maple Leafs have statisticians on staff. Statistics is a fast-growing, exciting, and well-paying field and York's degree will give you the tools you need to enter this dynamic arena. At York you will study with award-winning professors and choose from an innovative curriculum as you pursue your goal of becoming a Statistician.

The Statistics program at York will provide you with modern tools and the practical training to analyze data, explain your findings graphically, and devise predictions for future events. You will also learn to use the statistical software packages used by industry professionals.

In the Statistics program, you will begin with core courses in calculus, statistics, probability, computing, and linear algebra, and then move into advanced work in data analytics, business analytics, data mining, machine learning, survey sampling, multivariate statistical analysis, simulation and the Monte Carlo method, and experimental design. You can also combine your studies in Statistics with your interests in medicine, computer science, economics, social science, or other sciences such as biology, chemistry, or physics.

First Year Major Courses:

- Calculus
- Statistics
- Linear Algebra
- Mathematical Computing

The Math & Stats programs at York are designed so you can switch between any of our programs in the first three semesters and still finish your degree on time.

Students in the BSc degree will also take courses in other science fields such as Biology, Chemistry, or Physics.

Second Year Major Courses:

- Multivariable Calculus
- Probability
- Intermediate Statistics

Upper Year Options:

- Data Analytics
- Mathematical Statistics
- Regression Analysis
- Sample Survey Design
- Categorical Data Analysis
- Experimental Design
- Statistical Data Analysis
- Time Series Analysis
- Multivariate Statistical Analysis
- Simulation and Monte Carlo
- Probability Models
- Stochastic Processes
- Survival Analysis
- Statistical Data Analysis Using
- SAS and R

Statistics (BA, BSc) | www.yorku.ca/science/mathstats/statistics

Experiential Education

Experiential components are built into the Statistics program. Many courses have assignments or projects based on real world data. Some courses are taught hands-on in the computer lab, and other courses work on statistical problems like those encountered in consulting. You can also participate in a research project in which you apply statistical knowledge to problems of current interest.

The Internship Program provides qualified students in this program with an opportunity to integrate their classroom learning with hands-on, paid, full-time work. After your third year, you can do an internship and work for 4, 8, 12, or 16 months of work before returning to complete your degree.

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

Possible Career Pathways

Our Statistics program provides students with the skills they need to enter the exciting field of statistics. Our program is professionally accredited by the Statistical Society of Canada, and our students can apply to receive the professional designation of Associate Statistician. Some of our students go on to pursue graduate studies in Statistics, and others go on to start their own consulting companies and focus on the projects they are most passionate about, and others get jobs as statisticians, biostatisticians, data analysts, or data scientists. Industries and companies hiring statisticians include:

- Pharmacology (e.g. Pfizer, Eli Lilly)
- Biostatistics (e.g. University Health Network, Sunnybrook)
- Banking and Insurance (e.g. RBC, TD, SunLife)
- Animal Health
- Artificial Intelligence (e.g. Google, Facebook)
- Marketing (e.g. Shopify)
- International Development (e.g. United Nations)
- Education, Labour, and Research (e.g. Environment Canada)
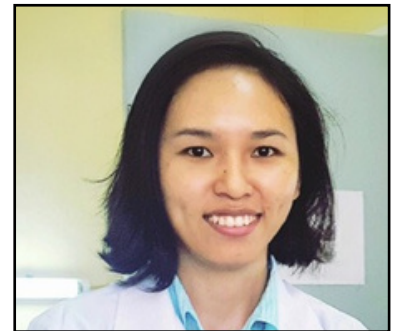- Economy, Society, and Health (e.g. StatsCanada, PHAC)

Get In Touch

Domestic Students:
science@yorku.ca

International Students:
intlsci@yorku.ca

Follow Us

@yorkuscience

"The Mathematics and Statistics department at York University offers an excellent Statistics program with courses and a support system. The diversity of Math and Statistics courses helps grow intellectual and essential skills required for various career pathways. PASS leaders, Club Infinity and Math/Stats lab are of great help to master concepts, data analytical knowledge in depth as well."

- My, Statistics Alumni and Masters Student