Statistics



Statistics is the science of designing informative experiments, of displaying and analyzing data, and of drawing valid conclusions from data. There is great demand for those who understand and can apply statistics effectively. Knowledge of statistical methods is useful to scientists and engineers, and to others working in government, research, industry, and medicine. Statistics can also be studied as a subject in its own right.

REASONS to study **STATISTICS**

Statistical thinking provides us with ways of understanding data sets that will help in analyzing 'real-world' problems.

Our digital age requires training in the STEM subjects, of which statistics is an essential part.

Our ability to collect huge amounts of data critically requires the development sophisticated ways to draw conclusions and move forward.

Statistics teaches skills and insights needed to succeed in the ever-changing workplace.

There is a huge demand for statisticians in academia, government and industry.

Rhodes Scholar Nithum Thain completed his BScH in Math, scoring a perfect GPA while being the captain of the fencing team at Queen's, where he won two provincial gold medals. He has enjoyed a wide range of professional opportunities - starting off at Empire Avenue as the VP of Research, working on the algorithms that ran their online gaming platform, and followed by working as a Business Development Analyst at createLIVE.

ALUMNI JOB of alumni work in

2021-22 major thresholds

Thresholds are made on a competitive basis and are updated annually. To see the thresholds for all programs as well as the latest information, please visit quartsci.com/planselection

add a **CERTIFICATE** to your degree

Data Analytics

Disability and **Physical Activity**

Employment Relations

Entrepreneurship, **Innovation** and Creativity

French for **Professionals**

Geographic Information Science

Global Action and Engagement

Indigenous Languages and

International Studies

Media Studies

Sexual and Gender Diversity

Urban Planning Studies

QUartsci.com/certs

Statistics MAJOR MAP*

The coronavirus pandemic may impact how some activities are delivered in 2021-2022. Please check directly with the host of any activity on the map for the latest information.



BACHELOR OF SCIENCE (HONOURS): MAJOR, MINOR **1ST YEAR 2ND YEAR 3RD YEAR 4TH OR FINAL YEAR GET THE** In first year you will have the chance to explore the Start going deeper into the discipline of Statistics, A chance to start grouping courses in areas of In fourth year you will have the chance to **COURSES** foundations of Statistics along with some electives. while considering a minor and/or certificate such as participate in research-based courses that can interest, or to keep it more general and explore **YOU NEED** lead to Graduate School or to your future career Geographic Information Science. Attend Degree + many areas of Statistics. Meet with an Academic in the Fall term to learn more about Certificates and path. Make sure to finish up all your courses Attend Majors Night in the Winter term to learn more Advisor to make sure you are on track and have Internship options. planned out your courses for next year. for your major and your optional minor and/or about Plan options. certificate(s). Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Ξ Support Services) and the Writing Centre for some **GET RELEVANT** Join teams or clubs on campus such as the Queen's Look into summer jobs by talking to the dept. or Consider applying to do a 12-16 month QUIP Investigate requirements for full-time jobs or **EXPERIENCE** Math Club, Putnam team, and the Math Investigations Career Services about work through SWEP or NSERC. internship between your third and fourth year. other opportunities related to careers of interest. Program. Take more responsibility within different clubs or Assess what experience you're lacking and fill in Z Consider entrepreneurial opportunities via extracurriculars. gaps with volunteering, clubs, or internships programs like the Queen's Innovation Connector make an appointment with a career counsellor See the AMS Clubs Directory or the Queen's Get Summer Initiative (QICSI). for further support. Involved page for more ideas. Consider submitting your work to an Ø undergraduate journal like Inquiry@Queen's. **GET CONNECTED** Consider joining professional associations like Volunteer on or off campus with different community Get involved with the Mathematics and Statistics Do targeted networking with alumni working in WITH THE Z the Canadian Applied and Industrial Mathematics Departmental Student Council (DSC). careers of interest by joining the LinkedIn group organizations such as Best Buddies. COMMUNITY 0 Society, the Canadian Mathematical Society, and Queen's Connects. Check out Career Services Σ the Statistical Society of Canada. networking workshops. Connect with professors at events or workshops hosted by the DSC. 9 Join groups on LinkedIn reflecting specific careers or topics of interest in Mathematics. 7 **GET THINKING** Prepare for work or studies in a multi-cultural Is an exchange in your future? Start thinking about Build your intercultural competence by getting International students interested in staying in **GLOBALLY** environment by taking QUIC's Intercultural where you would like to study abroad. Apply in involved with other cultures or by practicing or Canada can speak with an International Student Competency Certificate, and research possible January for a third year exchange through the improving your language skills. Advisor. International Programs Office. immigration regulations. S Apply for the Math in Moscow Scholarship or the Speak to a QUIC advisor to get involved in their Z **Budapest Semesters in Mathematics.** 0 programs, events, and training opportunities. **GET READY** Grappling with program decisions? Go to Majors Night Explore different careers of interest by reading books Start focusing on areas of interest. Research any Apply to jobs or future education, or make plans **FOR LIFE AFTER** or get some help wondering about career options in the Career Services Career Advising and Resource further education requirements for careers of for other adventures. Get help from Career **GRADUATION** from Career Services. Area, such as the Great Jobs for Math Majors. For more interest. If needed, prepare to take any required Services with job searching, resumes, interviews, information check out Career Cruising or by finding tests (like the LSAT or GMAT) and get help thinking Grad School applications, or other decisions. Build your transferable skills in time management, and connecting with alumni on LinkedIn. about Grad School from Career Services.

What will I learn?

A degree in Statistics can equip you with:

- Logical reasoning and problem solving to apply analytical and critical reasoning to solve problems
- Ability to solve problems by applying analytical and critical reasoning
- Understand strong evidence to produce trustworthy data and provide mathematical evidence for conjectures and generalizations
- Knowledge of a broad range of mathematical fields and methods
- · Ability to create mathematical models
- Pattern recognition to explore examples and recognize patterns
- Persistence to approach problem solving with openess and a willingness to try multiple approaches
- Ability to work independently and in a team on a project
- Oral and written comunication to communicate quantitative ideas with clarity and coherence through writing and speaking

Where can I go?

A degree in Statistics can take your career in many directions. Many students choose to continue their academic inquiry with a Master's. Our students are equipped with a strong foundation for careers in:

- Accounting
- · Aerospace
- Auditing
- Banking
- Cryptanalyst
- · Data scientist
- · Financial analysis
- Mathematician
- Risk analyst
- Survey researcher

Taking time to explore career options, build experience and network can help you have a smooth transition to the world of work after graduation.

problem-solving, writing and more with Student Academic Success Services.

Statistics

MAJOR MAP



How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the My Major Map tool.

Get started thinking about the future now where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally, and Queen's wants you to succeed! Check out the **Student Affairs website** for available resources.



DEPARTMENT OF MATHEMATICS AND STATISTICS

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mathstat.ugchair@queensu.ca

QUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

START DATES

in May, September, or January

POSITIONS

are paid and full-time

WORK TERMS

are 12-16 months lona

PROGRAM OVERVIEW

- Graduate with "Professional Internship" on your degree.
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.

ELIGIBILITY

- 2nd or 3rd Year Students
- Minimum GPA of 1.9

WHY OUIP?

best.

- Gain a year of career-related work experience.
- Build network connections.
- Receive support from Queen's staff in job search and during internship.

SAMPLE PAST INTERNSHIPS



For more information, contact quip@queensu.ca or visit the Program Website.

Why study in Kingston?

For 175 years, our community has been more than a collection of bright minds – Queen's has attracted students with an ambitious spirit. Queen's has the highest retention rates, the highest graduation rates, and one of the highest employment rates among recent graduates. We are a research intensive university focused on the undergraduate experience. The BBC has identified us as one of the GREATEST UNIVERSITY TOWNS in the world – and is often awarded the safest city in Canada. We are a university city at the core; just a quick drive to Toronto, Montreal, Ottawa and even New York. A university with more clubs per capita than any other university in Canada, and a city with more restaurants per capita than any other city in North America – you will have the

ong the Ne're closer than you think experience of a lifetime at Queen's - and graduate with a degree that is globally recognized among the London / 7 hrs CANADA Oueen's Beijing / 15 hrs Dubai / 14 hrs Vancouver / 5 hrs Calgary / 4 hrs Halifax / 2 hrs San Francisco / 5.5 hrs Kingston Denver/3 hrs UNITED New York / 1.5 hrs STATES

Dallas / 3.5 hrs

Atlanta / 2 hrs

Bermuda / 2 hrs