## **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 everchanging workplace.
- There is a huge demand for statisticians in academia, government, and industry.

#### Alumni Story

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.

### **TOP ALUMNI JOBS**

of alumni work in PHARMACEUTICALS

15 % of alumni work in INSURANCE

18% of alumni work in BANKING, INVESTMENT

21% of alumni work in

## 2023-24 Plan 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 <a href="mailto:quartsci.com/planselection">quartsci.com/planselection</a>

Interested in finding out how to augment your degree with Experiential Learning? Learn what opportunities and resources are available for you on the <a href="mailto:Experiential Learning website">Experiential Learning website</a>. You can also reach out to the team directly at <a href="mailto:asc.el@queensu.ca">asc.el@queensu.ca</a>.

## add a CERTIFICATE

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 Cultures

International Studies

**Media Studies** 

Sexual and Gender Diversity

Urban Planning Studies

QUartsci.com/certs

### Acquire Skills. Gain Experience. Go Global.

That is a degree from Queen's.

queensu.ca/mathstats

## Statistics MAJOR MAP

BACHELOR OF SCIENCE (HONOURS): MAJOR, MINOR



#### **1ST YEAR** 2ND YEAR **3RD YEAR GET THE COURSES** 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 foundations of Statistics along with some electives. while considering a minor and/or certificate such of interest, or to keep it more general and YOU NEED Attend Majors Night in the Winter term to learn as Geographic Information Science. Learn more explore many areas of Statistics. Meet with more about Plan options. about **Certificates** and **Internship** options. an Academic Advisor to make sure you are on track and have planned out your courses for Want to make sure your academics are where you Develop your entrepreneurial skills by next year. want them to be? Visit SASS (Student Academic participating in the Dean's Changemaker Support Services) and the Writing Centre for some Challenge (ASCX 200/300). Interested in getting a head start in learning and Z working in a digital world? Take ASCX 150 and develop future-ready skills! ~ **GET RELEVANT** Join teams or clubs on campus such as the Look into summer jobs by talking to the dept. Consider applying to do a 12-16 month **QUIP** Z **EXPERIENCE** Queen's Math Club, Putnam team, and the Math or Career Services about work through SWEP or internship between your third and fourth year. Investigations Program. NSERC. Take more responsibility within different Consider entrepreneurial opportunities ۵ clubs or extracurriculars. See the AMS Clubs Directory or the Queen's Get via programs like the **Queen's Innovation** Involved page for more ideas. Connector Summer Initiative (QICSI). $\supset$ O Z 0 CONNECTED Volunteer on or off campus with different Get involved with the Mathematics and Statistics Do targeted networking with alumni working Σ Departmental Student Council (DSC). in careers of interest by joining the LinkedIn community organizations such as **Best Buddies**. WITH THE group **Queen's Connects**. Check out Career COMMUNITY Services networking workshops. Connect with professors at events or workshops hosted by the DSC. 7 **GET THINKING** Is an exchange in your future? Start thinking Prepare for work or studies in a multi-cultural Build your intercultural competence by getting ш **GLOBALLY** about where you would like to study abroad. environment by taking QUIC's Intercultural involved with other cultures or by practicing or Δ Competency Certificate, and research possible Apply in January for a third year exchange improving your language skills. S through the International Programs Office. immigration regulations. Apply for the Math in Moscow Scholarship or Speak to a QUIC advisor to get involved in their Z programs, events, and training opportunities. the Budapest Semesters in Mathematics. 0 **GET READY FOR LIFE AFTER** Grappling with program decisions? Go to Majors Explore different careers of interest in the Start focusing on areas of interest. Research Night or get some help wondering about career Career Services Career Advising and Resource any further education requirements for **GRADUATION** options from Career Services. careers of interest. If needed, prepare to take Area. For more information check out Career **Cruising** or by finding and connecting with any required tests (like the LSAT or GMAT)

alumni on LinkedIn.

#### 4TH OR FINAL YEAR

In fourth year you will have the chance to participate in research-based courses that can lead to Graduate School or to your future career path. Make sure to finish up all your courses for your major and your optional minor and/or certificate(s).

Interested in working on a real-world problem with an actual client? Take ASCX 400 and develop your consulting and projectmanagement skills.

Investigate requirements for full-time jobs or other opportunities related to careers of interest. Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – make an appointment with a career counsellor for further support.

Consider submitting your work to an undergraduate journal like Inquiry@ Oueen's.

Consider joining professional associations like the Canadian Applied and Industrial Mathematics Society, the Canadian Mathematical Society, and the Statistical Society of Canada.

Join groups on LinkedIn reflecting specific careers or topics of interest in Mathematics.

International students interested in staying in Canada can speak with an International Student Advisor

Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, Grad School applications, or other decisions.

and get help thinking about Grad School from

Career Services.

#### What will I learn?

A degree in Statistics can equip you

- 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 statistical evidence for conjectures and generalizations
- Knowledge of a broad range of statistical fields and methods
- Ability to evaluate and test mathematical models
- Pattern recognition to explore examples and recognize patterns
- Persistence to approach problem solving with openness and a willingness to try multiple approaches
- Ability to work independently and in a team on a project
- Oral and written communication 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
- Artificial intelligence
- Banking
- Clinical trials
- Data scientist
- Financial analysis
- Risk analyst Statistician
- 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.

#### 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.

Build your transferable skills in time

management, problem-solving, writing, and

more with Student Academic Success Services.

## **Statistics**



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. Queen's wants you to succeed! Check out the <a href="Student Affairs">Student Affairs</a> website for available resources.



Department of Mathematics and Statistics Jeffrey Hall, Room 310 48 University Avenue 613-533-2390 queensu.ca/mathstat

#### QUIPQUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

#### START DATES

in May, September, or January

#### POSITIONS

are paid and full-time

#### **WORK TERMS**

are 12-16 months

#### PROGRAM OVERVIEW

- Graduate with a "Professional Internship" 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



- 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 <a href="mailto:quip@queensu.ca">quip@queensu.ca</a> 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 Kingston as one of the GREATEST UNIVERSITY TOWNS in the world – and it is often awarded the safest city in Canada. It is a university city at the core; just a quick drive

than you think 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 CANADA London / 7 hrs Oueen's the experience of a Beijing / 15 hrs lifetime at Queen's Dubai / 14 hrs - and graduate Vancouver / 5 hrs Calgary / 4 hrs with a degree Halifax / 2 hrs that is globally San Francisco / 5.5 hrs Kingston recognized Denver/3 hrs among New York / 1.5 hrs UNITED the best. STATES Dallas / 3.5 hrs

Atlanta / 2 hrs

Bermuda / 2 hrs