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.

**TOP 5 REASONS to study STATISTICS**

1. Mathematical thinking develops logical reasoning skills that will help in analyzing ‘real-world’ problems.
2. According to Galileo, mathematics is the language of science and hence essential for all scientific study.
3. Our digital age requires training in the STEM subjects, of which mathematics is an essential part.
4. Mathematics develops the imaginative faculty and has the aesthetic quality of the humanities.
5. Mathematics teaches skills and insights needed to succeed in the ever-changing workplace.

**ALUMNI JOBS**

- 9% of alumni work in Pharmaceuticals
- 15% of alumni work in Insurance
- 18% of alumni work in Banking & Investment
- 21% of alumni work in Education

**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.

**2018-19 thresholds**

- **0.7 cGPA** AUTOMATIC ACCEPTANCE min C in MATH 1##
- OPEN PENDING LIST

*Thresholds are made on a competitive basis and are updated annually. For the latest information please visit: QUartscl.com
**Statistics Major Bachelors of Science (Honours)**

### 1st Year

- **Get the Courses You Need**
  - In first year you will have the chance to explore the foundations of Statistics along with some electives. See the back page for specific courses to consider. Attend Majors Night in the Winter term to learn more about Plan options.

- **Get Relevant Experience**
  - Join teams or clubs on campus such as the Queen’s Math Club, Putnam team, and the Math Investigations Program. See the AMS Clubs Directory or the Queen’s Get Involved page for more ideas.

- **Get Connected with the Community**
  - Volunteer on or off campus with different community organizations such as Best Buddies.

- **Get Thinking Globally**
  - Prepare for work or studies in a multi-cultural environment by taking QUIC’s Intercultural Competency Certificate, and research possible immigration regulations. Speak to a QUIC advisor to get involved in their programs, events, and training opportunities.

- **Get Ready for Life After Graduation**
  - Grappling with program decisions? Go to Majors Night or get some help wondering about career options from Career Services. Build your transferable skills in time management, problem-solving, writing and more with Student Academic Success Services.

### 2nd Year

- **Get the Courses You Need**
  - Start going deeper into the discipline of Statistics, while considering a minor or course certificate in Geographic Information Science. Attend Degree + in the Fall term to learn more about Certificate and Internship options. Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.

- **Get Relevant Experience**
  - Look into summer jobs by talking to the dept. or Career Services about work through SWEP or NSERC. Take more responsibility within different clubs or extracurriculars.

- **Get Connected with the Community**
  - Get involved with the Mathematics and Statistics Departmental Student Council (DSC).

- **Get Thinking Globally**
  - Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a third year exchange through the International Programs Office. Apply for the Math in Moscow Scholarship or the Budapest Semesters in Mathematics.

- **Get Ready for Life After Graduation**
  - Explore different careers of interest by reading books in the Career Services Career Advising and Resource Area, such as the Great Jobs for Math Majors. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

### 3rd Year

- **Get the Courses You Need**
  - A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Statistics. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next year — for some ideas, see the back page.

- **Get Relevant Experience**
  - Consider applying to do a 12-16 month QUIP internship between your third and fourth year. Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer initiative (QICSI).

- **Get Connected with the Community**
  - Do targeted networking with alumni working in careers of interest by joining the LinkedIn group Queen’s Connects. Check out Career Services networking workshops. Connect with professors at events or workshops hosted by the DSC.

- **Get Thinking Globally**
  - Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

- **Get Ready for Life After Graduation**
  - Start focusing on areas of interest. Research any further education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get help thinking about Grad School from Career Services.

### 4th or Final Year

- **Get the Courses You Need**
  - 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).

- **Get Relevant Experience**
  - 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 - check out the Career Services skills workshop for help.

- **Get Connected with the Community**
  - 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.

- **Get Thinking Globally**
  - Consider joining the International Innovation Connector (QICSI). Consider applying to a 12-16 month QUIP internship.

- **Get Ready for Life After Graduation**
  - International students interested in staying in Canada can speak with an International Student Advisor.

### What Will I Learn?

A degree in Statistics can equip you with valuable and versatile skills, such as:

- 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 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
- Auditing
- Banking
- Cryptanalyst
- Data scientist
- Financial analyst
- 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.
STATISTICS
Major, Bachelor of Science (Honours) | degree PLAN

Sample Year by Year

1ST YEAR
- MATH 110/6.0
- MATH 120/6.0
- 18.0 units of electives

2ND YEAR
- MATH 280/3.0
- MATH 281/3.0
- (STAT 268/3.0 and STAT 269/3.0) or (STAT 351/3.0 and STAT 269/3.0)
- MATH 210/3.0, MATH 231/3.0
- 18.0 units of electives and/or minor

3RD YEAR
- STAT 353/3.0
- STAT 361/3.0
- STAT 463/3.0
- 12.0 units from STAT Options
- 12.0 units of electives and/or minor

4TH YEAR
- 15.0 units from STAT Options
- 12.0 units of electives and/or minor

Note that degree requirements are revised regularly. The most current requirements, including course lists and options, are found in the Academic Calendar at: QUartsci.com/academic-calendar