# Mathematics

MSc / PhD

**ryerson.ca/graduate**

**Ryerson University**

**Faculty of Science**

# Applied Mathematics (MSc)

This program welcomes motivated students seeking to acquire mathematical skills to advance their academic or industry career goals. MSc students produce high-quality work in the form of a thesis or major research paper, and learn how to write technical and scientific reports and communicate complex results to a general audience. All students are fully funded. Upon graduation, students pursue rewarding academic and industry careers.

# Mathematical Modelling and Methods (PhD)

Grounded in applied research, this new, tight-knit PhD program combines various mathematical modelling aspects of biomathematics, discrete mathematics and financial mathematics to prepare highly skilled research scientists for careers in academia and industry. Located in Canada's largest metropolis, students will be able to work with major financial institutions, research hospitals and technology companies, and have access to career opportunities in academia, financial institutions, hospital research laboratories and companies that analyze and use data for business strategy.

## MSc Research Areas

- Biomathematics
- Biostatistics
- Complex Networks
- Computer Security
- Cryptography
- Data Mining
- Differential Equations and Operator Theory
- Financial Mathematics
- Fluid Mechanics
- Foundations of Statistical Mechanics
- Graph Theory
- Machine Learning
- Software Testing

## Sample PhD Courses

- Advanced Numerical Analysis
- Analysis and Probability
- Applied Statistical Methods
- Discrete Mathematics and its Applications
- Partial Differential Equations
- Principles and Techniques in Applied Mathematics

## Admissions Information

| MSc | · Completion of a four-year bachelor of science degree in mathematics or a related discipline<br>· Minimum grade point average (GPA) or equivalent of 3.00/4.33 (B) in the last two years of study<br>· Resumé/CV<br>· Statement of interest<br>· Two letters of recommendation |
|---|---|
| PhD | · Completion of a master of science degree in applied mathematics or related discipline<br>· Minimum grade point average (GPA) or equivalent of 3.33/4.33 (B+)<br>· Resumé/CV<br>· Statement of interest demonstrating evidence of research potential<br>· Three letters of recommendation from former professors familiar with the applicant's abilities |

Applicants may be required to provide certification of English language proficiency. For more information, visit **ryerson.ca/graduate/futurestudents/admissions/english-language.html**.

## At a Glance

**22**
faculty members

**1:1**
MSc faculty-student ratio

**200**
papers published in peer-reviewed journals and proceedings (2009-14)

"Studying Applied Mathematics at Ryerson University has been a wonderful experience. The combination of challenging coursework, supportive professors and interesting research addressing real-world problems has helped me grow as a mathematician."

– Jill Padgett, MSc student

**Program Contact**

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