Data Science and Analytics

MSc

ryerson.ca/graduate
Data Science and Analytics

This unique one-year Master of Science (MSc) degree program enables students to develop interdisciplinary skills and gain a deep understanding of technical and applied knowledge in data science and analytics. Graduates are highly trained, qualified data scientists who can pursue careers in industry, government or research.

Skills Developed

- Domain knowledge
- Machine learning
- Math
- Operations research
- Programming
- Statistics

Admissions Information

MSc

- Completion of a four-year bachelor’s degree in engineering, science, business, economics or related discipline
- Minimum grade point average (GPA) or equivalent of 3.00/4.33 (B) in the last two years of study
- Two letters of recommendation
- Statement of interest
- Resumé/CV

Sample Courses

- Advanced Data Visualization
- Bayesian Statistics and Machine Learning
- Data Mining and Prescriptive Analysis
- Designs of Algorithms and Programming for Massive Data
- Interactive Learning in Decision Processes
- Machine Learning
- Management of Big Data and Big Data Tools
- NLP (Text Mining)
- Social Media Analytics

Resources

- Students can apply to participate in DMZ programming, where they have the opportunity to create their own startups or work with companies engaged in big data and data science.
- Students may have direct access to various international partners and/or exchange programs to enhance their learning experience.
- Ryerson’s Big Data Initiative (BDI) spans many academic units and research areas. The Data Science Laboratory, RC4 High Performance Computing Facility, and Privacy and Big Data Institute are part of Ryerson’s cross-university BDI agenda to develop new tools and apply them to advance organizational performance across sectors.
- The program engages with various industry and government partners from diverse domains.

Prospective students are expected to demonstrate working knowledge of statistics, data structures and algorithms, databases and R programming. These prerequisites can be documented through prior completion of university or college level courses equivalent to the following courses that are offered at Ryerson University’s G. Raymond Chang School of Continuing Education:

- CIND 123: Data Analytics: Basic Methods (formerly CKME 132: Statistics and R Programming)
- CIND 110: Data Organization for Data Analysts (formerly CKCS 110: Database Management)
- CCPS 305: Data Structures and Algorithms
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