Rotman

Master of Management Analytics

2024

Rotman School of Management
UNIVERSITY OF TORONTO

Here's where it changes.

➔ **Take a Virtual Tour**
  of the Rotman School

The field of management analytics is evolving at an extraordinary pace. If you are looking to make your mark in this exciting area, consider the Rotman Master of Management Analytics (MMA).

The MMA is a theoretically rigorous and highly experiential degree. It helps you gain the advanced skills required to shape future business decisions. In this comprehensive 11-month program, you will learn the newest analytics tools in machine learning and artificial intelligence used in today's tech-driven economy.
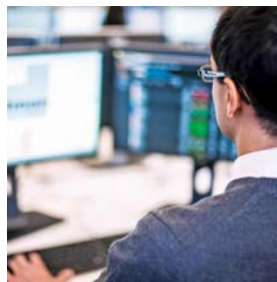

University of Toronto ranks:

#1 | **#18**
University in Canada | of the Top Universities in the World

— Times Higher Education World University Rankings 2023

University of Toronto
Enjoy a full-campus experience at the historic St. George campus of the University of Toronto. Established in 1827, U of T is recognized as Canada's leading university, and a global centre for research and academic excellence. This reputation adds tremendous value to your Rotman MMA degree.

Toronto: Part of a Growing Tech North
Toronto is part of Tech North, an industry region that is rapidly growing into the largest concentration of artificial intelligence, machine learning, fintech and quantum computing start-ups in the world. The School takes full advantage of its strategic location by drawing on a rich pool of business and industry leaders as teachers, mentors and speakers.

Join the best

The Master of Management Analytics is a practical degree designed for quantitatively strong students who have recently completed their undergraduate studies.

24
Average age

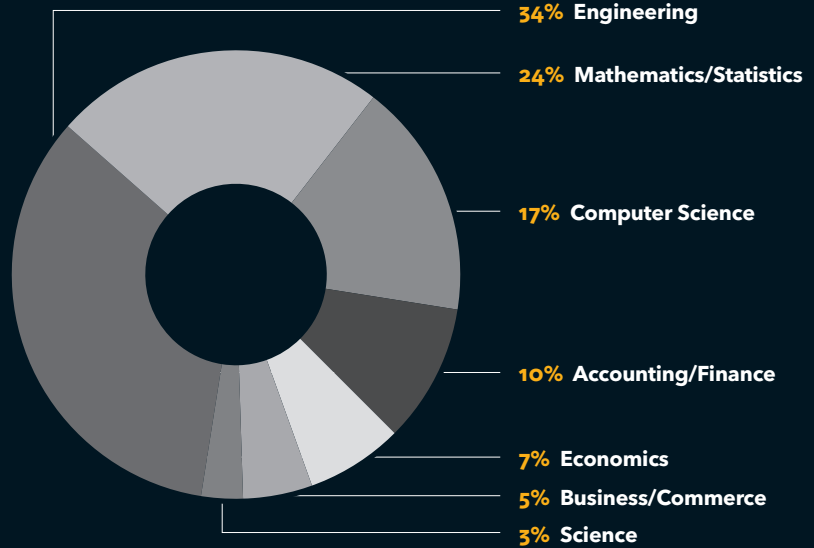## 44%
Women in class

3.7
Average undergrad GPA

692
Average GMAT*

36%
of class with work experience
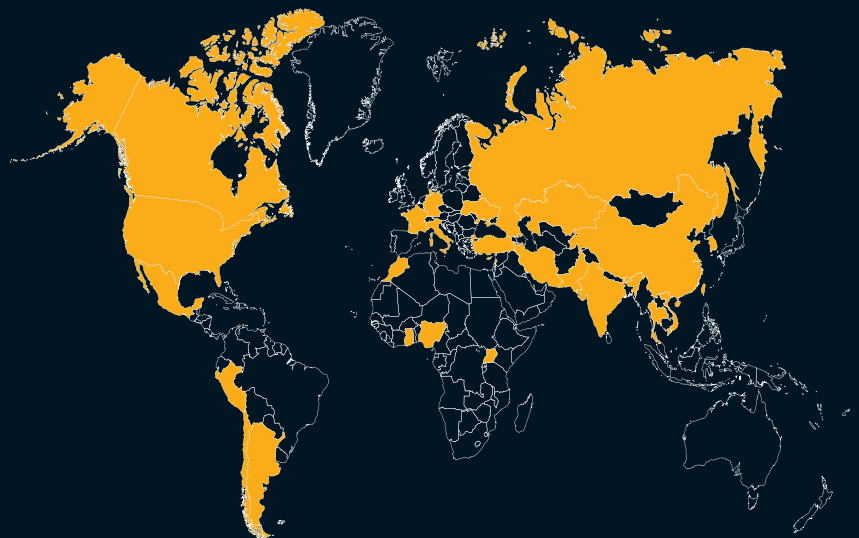AVERAGE 26 MONTHS

ACADEMIC BACKGROUNDS

- **34%** Engineering
- **24%** Mathematics/Statistics
- **17%** Computer Science
- **10%** Accounting/Finance
- **7%** Economics
- **5%** Business/Commerce
- **3%** Science

NATIONALITIES REPRESENTED IN OUR LAST THREE COHORTS (2020-2022)

*Not required for admission. Average based on scores from 36% of admitted class.
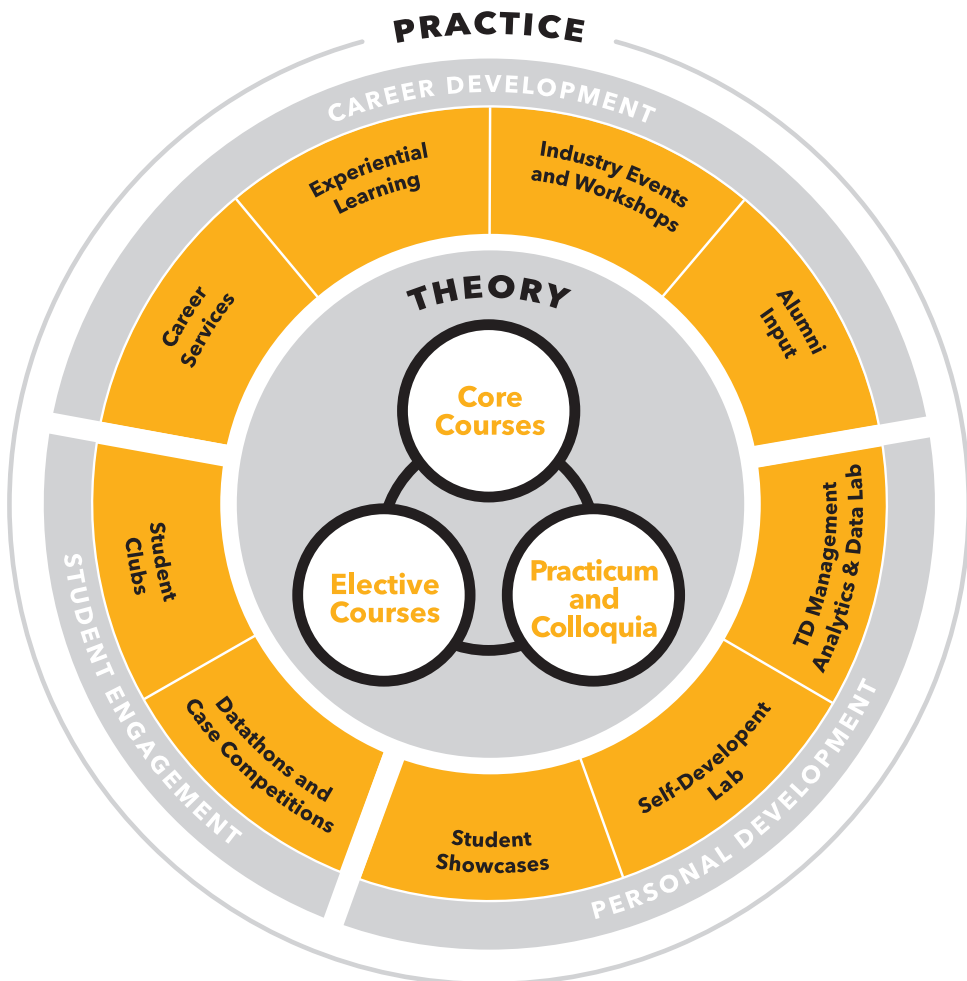
Sydney Kalyn
MMA '22

Senior Analyst, Enterprise
Strategy, Manulife

Previous education:
Bachelor of Commerce,
McGill University

"The practicum project was the highlight of my MMA experience. It's an opportunity to work on a live project in your own industry, and to apply the skills you gain in class to real-world challenges."

The Rotman Master of Management Analytics

PRACTICE

CAREER DEVELOPMENT

Experiential Learning

Industry Events and Workshops

Career Services

Alumni Input

THEORY

Core Courses

TD Management Analytics & Data Lab

Student Clubs

Elective Courses

Practicum and Colloquia

Self-Development Lab

STUDENT ENGAGEMENT

Datathons and Case Competitions

Student Showcases

PERSONAL DEVELOPMENT

Management analytics is the development of a precise understanding of the factors influencing managerial decisions, and designing data and analytical solutions to support them.

We have structured our program to provide you with a multitude of opportunities to test and master your skills.

On completion, you will:

➔ Understand the root cause of managerial problems
➔ Know how to identify data sources
➔ Create analytical data sets
➔ Design, validate and implement analytical solutions
➔ Confidently and effectively tell a story with your data to influence business decisions

#2
In Canada

#13
In the World

TOP 3
INFORMS UPS
George D. Smith
Prize, '22 and '23

Located in the heart of Canada's technology corridor, Rotman offers you wide-ranging opportunities to hone your expertise in AI and predictive analytics.

Practicum project
Gain real-world experience. Running through the duration of the program, the practicum is a key strength of the MMA. Working in teams, students are faced with a real business challenge, and develop an analytical approach to solving it. Alongside counterparts in the sponsoring organization, students present a design for the analytical data set and model development to faculty and the project sponsor before executing and presenting the results.

At the end of the program, Rotman hosts a combined showcase and networking event where students present their project outcomes to industry partners. The event is the culmination of the industry experience, and the program as a whole. **Learn more →**

TD Management Data and Analytics Lab
Collect and analyze big data. The team of lab staff and data scientists in residence provide technical support and advice, while hosting regular events and competitions to give you additional perspectives on the world of data analytics. The lab provides online access to both private and public data sources needed for the MMA program. **Learn more →**

Industry connections
Meet experts in their field. Connect with senior practitioners through networking events and the practicum, and through interactions with the advisory board and our in-house data scientists. Learn about analytics in different industries to shape your future career opportunities.

Showcases, case competitions and datathons
Highlight your talent to top industry experts and impress potential employers. Each year, Rotman students participate in a range of competitions across Canada, applying their skills and knowledge to real-world challenges.

Events and speaker series
Learn from the best. Each year, Rotman hosts over 100 public talks by best-selling authors, analytics professionals and other thought leaders. The insights shared by these speakers have an extraordinary impact on students. **Learn more →**

Rotman clubs
Led and organized by Rotman students, clubs offer a rich calendar of social, cultural and career-related events and activities. Clubs offer diverse opportunities to meet and network with like-minded individuals from different programs. The Rotman Business Analytics Club is of particular interest to MMA students. **Learn more →**

Vector Institute recognition
The program is recognized by the Vector Institute for developing the skills and competencies demanded by the artificial intelligence industry in Canada.

VECTOR INSTITUTE

"My experience at Rotman was truly remarkable, as it provided me with the opportunity to establish meaningful connections with industry leaders and mentors, and with the capabilities needed to excel in the field of AI consulting."

Yining (Johnny) Wang
MMA '22
Rotman MMA Valedictorian
Consultant, Deloitte Omnia AI

Previous education:
Bachelor of Applied Science, University of Toronto

Q&A with Johnny →

Learn from the best

"The Rotman MMA program is unique in that is provides students with both sophisticated technical skills and with a managerial and business toolkit. Unlike other programs, we do not have an AI track within our MMA. AI tools and mastery of coding languages such as Python, R and SQL are among the core skills all our students are expected to develop."

Dmitry Krass
PHD, JOHN HOPKINS UNIVERSITY

Sydney C. Cooper Chair in Business and Technology;

Professor of Operations Management and Statistics

Academic Co-Director, MMA Program

Rotman is the largest Canadian business school and is ranked among the top twenty globally for management research.

Our faculty have built a stellar reputation for their leading scholarship, teaching excellence and insights into a wide range of management issues.

Data Scientists in Residence
A key connection between students and industry, the data scientists in residence provide a wealth of insight. They include:

Meghan Chayka
Co-Founder, Stathletes

Meghan is an entrepreneur and the co-founder of Stathletes, a sports analytics and insights business that provides industry-leading data precision within the sport of hockey.

Brian Keng
Research Director at Borealis AI

Brian leads the incubator and proof of concept stream at RBC's AI research lab to develop new and innovative solutions for the bank's business lines.

Arik Senderovich
TD-MDAL Fellow, Rotman School of Management

Arik provides research and data analytics insights to process mining and optimization. His work focuses on congested service and manufacturing systems.

Among our professors are seasoned professionals who tap into their real-world experience to guide students and bring classroom discussions to life. They give you access to the latest research before it filters into consulting firms and major corporations. Faculty teaching in the program include:

Gerhard Trippen
PHD, THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Associate Professor, Teaching Stream, OM and Statistics Area; Academic Co-Director, MMA program

Opher Baron
PHD, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

Distinguised Professor of Operations Management

Gillian Hadfield
PHD, STANFORD UNIVERSITY

Professor, Strategic Management Area and Professor of Law

Sridhar Moorthy
PHD, STANFORD UNIVERSITY

Manny Rotman Chair in Marketing and Professor of Marketing

Kanchana Padmanabhan
PHD, NORTH CAROLINA STATE UNIVERSITY

VP of Engineering & Product at Secure AI Labs and Industry Instructor

Maria Rotundo
PHD, UNIVERSITY OF MINNESOTA

Professor of Organization Behaviour and HR Management

Mikhail (Mike) Simutin
PHD, UNIVERSITY OF BRITISH COLUMBIA

Associate Professor of Finance

Harness your potential

The Master of Management Analytics Program is designed for talented individuals seeking a transformative learning experience. The program will challenge you to push your limits, expand your creativity, and focus your critical thinking and decision-making skills to advance your leadership potential.

98%

of MMA students were employed within 6 months of graduation
(Class of 2022)

$91,648

Average starting salary, with bonuses
(Class of 2022)

"Rotman is an internationally recognized business school, and the skills you learn in the MMA program are exactly the ones that companies are searching for."

Cole Shulman, MMA '22

Healthcare Consultant, Eastwood & Cleef

Vector Institute Scholarship in AI recipient

Previous education:

Bachelor of Health Sciences (BHSc.) Majoring in Biomedical Discovery and Commercialization with a Statistics Minor, McMaster University

Q&A with Cole →

Master of Management Analytics Advisory Board

The MMA program advisory board consists of senior professionals working in data and analytics across a range of sectors. For students, the board provides a key link to the industry. Board members have frequent interactions with students, hosting coffee chats, discussing the role of analytics in their organization, and providing feedback on mock technical interviews. They also advise on industry and career trends in analytics, and the skills that will continue to differentiate Rotman MMA graduates.

Career Services

We equip you with the skills and strategies you need to succeed by offering a suite of services designed for young professionals.

Our career services team works with you to navigate the analytics job market across diverse industries. You will work with a career coach and corporate team who will help you plan and achieve your professional goals through:

➜ One-on-one career coaching

➜ Exclusive employer networking opportunities

➜ Industry-specific and alumni speaker events

➜ Professional skills workshops designed to set you up for success

➜ Technical interview and case interview preparation

➜ Mock interviews with industry professionals

➜ Curated job board for Canadian and global opportunities

➜ Global job search resources and supports

➜ 24/7 online resources

Learn more →

A SELECTION OF ADVISORY BOARD MEMBER COMPANIES

Your MMA journey

Learn today how to tackle the business challenges of tomorrow. Master the skills required to succeed in the field of management analytics, with cutting-edge coursework that exposes you to the newest techniques in machine learning and artificial intelligence.

Real-world results
This full-time, 11-month program is designed with input from industry partners to reflect the shifting landscape of data analytics, machine learning and artificial intelligence. The full-time program starts at the beginning of August, with one intake per year.

Software tools
The MMA program is designed to refine your mastery and application of important tools including Python, R, SQL, Excel and Tableau.

Professional certification
Certifications are an opportunity for you to demonstrate your knowledge in a specific area. The optional certification program is designed to facilitate opportunities for students to complete certifications while in the program.

"Rotman is an amazing environment to learn, connect, and prosper in your career. The MMA program helped me discover how advanced technologies translate into business strategies and impact."

Stella Moon, MMA '21
Analytical Lead, Google

Vector Institute Scholarship in AI recipient

Previous education:

B.MATH (Statistics Major), University of Waterloo;
BBA (Finance Concentration), Wilfrid Laurier University

Beginning of August — September — End of June

Note: Course order and timing for each academic session are subject to change.

MMA Convocation takes place in November, following June deliverables.

Management Analytics Practicum
September to June

The practicum provides an opportunity for student teams to engage with a real-world business challenge.

The courses within the program, topics covered in the colloquium and various resources at Rotman will guide you in producing the best possible solutions to the managerial issues addressed in the practicum.

Working with your counterparts in the organization, you will:

➔ **Devise** an analytical approach to solving a managerial issue

➔ **Present** a design for the analytical data set and model development

➔ **Execute** and present the results

Introduction
August to September

Familiarize yourself with Rotman and gain an overview of the topics you will be covering during the program.

➔ Analytics in Management

➔ Data-based Management Decisions

➔ Bootcamps (Stats, JMP, Python, SQL, R)

Analytical Tools and Techniques
October to December

Learn about a wide range of analytic tools, from simple predictive models to complex statistical models of learning and simulation-based tools.

➔ Structuring and Visualizing Data for Analytics

➔ Modeling Tools for Predictive Analytics

➔ Big Data Analytics

➔ Tools for Probabilistic Models and Prescriptive Analytics

Managerial Uses of Analytics
February to May

This term looks at the typical challenges organizations face, and how data can be used to solve them. It considers the types of data available in different sectors and departments, and how they can be applied to meet organizational objectives. Students will study 1 core course, as well as 3 electives.

CORE

➔ Improving Customer Value with Analytics to Leveraging AI and Deep Learning Tools in Marketing

ELECTIVES (Not all electives may be offered every year)

➔ Analytics for Marketing Strategy

➔ Analytics Insight Using Accounting and Financial Data

➔ Analytic Methods in Finance

➔ Optimizing Supply Chain Management and Logistics

➔ Service Analytics for Management Analytics

Colloquia
August to June

A series of mini-courses throughout the program exposes you to current trends and topics. The areas explored are reviewed annually to ensure the most important issues are covered. Certain topics such as ethics will be covered each year.

Previous topics included:

➔ Ethical and Legal Issues in AI

➔ The Basics of API Usage and Design

➔ Cloud Computing and MLOps

➔ Product Management Analytics

➔ Social Networks Representation

➔ Analytics for Fraud Detection and Money Laundering

➔ Customer Relationship Management (CRM)

➔ Healthcare Analytics

➔ Process Mining

Self-Development
August to June

Led by the Self-Development Lab (SDL), and running throughout the duration of the program, this course helps you develop your communication and interpersonal skills.

Topics include:

➔ Making Effective Presentations

➔ Making Teams Work and Working as a Team

➔ Doing Things with Words

➔ Difficult Conversations

Sukanya Mahata, MMA '21

Senior Manager, Marketing Analytics,
RBC

Previous education:
Post Graduate Diploma in
Management - Indian Institute
of Management, Ahmedabad

Bachelor of Technology, Electrical
Engineering, Indian Institute of
Technology

Q&A with Sukanya →

"The Rotman School is renowned for creating an atmosphere of excellence, bringing together bright students with accomplished professors in the heart of a bustling city. Choosing Rotman meant being in a class where I would be consistently challenged by my peers to approach problems in a new way and develop a new set of skills. It also offered an unparalleled network of alumni and companies, right at our doorstep in Toronto, as well as around the world."

Admission & next steps

Admission criteria

The following are some of the elements required for admission. Refer to our website for full admissions criteria**.**

- ➔ **Four-year undergraduate degree, minimum B average across final year**
- ➔ **Quantitative proficiency**
- ➔ **Computational proficiency**
- ➔ **English language proficiency**
- ➔ **Prerequisite assessments***
- ➔ **Standardized test results (GMAT/GRE) encouraged**

Following the submission of an online application, selected candidates will be invited to interview.

Application deadlines

First round: **November 8, 2023**

Second round: **February 7, 2024**

*If you have not completed courses in these areas as part of your undergraduate degree, you can obtain conditional acceptance to the program by completing our pre-qualifying exams. Visit our website for further details.

Quantitative proficiency
- ➔ University-level quantitative courses with a B or higher
- ➔ Strong performance in courses related to Calculus, Linear Algebra, Statistics and Probability

Computational proficiency
- ➔ Proficiency in one or more programming language
- ➔ Demonstrated through academic studies, work, internships or personal projects

Interpersonal skills
- ➔ Strong verbal and written communication skills
- ➔ Professionalism and collaboration

Passion for analytics
- ➔ Why you want to study and have a future in analytics
- ➔ Shown through academic courses, work, internships, or relevant projects

Financing and awards

We invest in our students by providing over **$500,000** CAD in award funding.

Applicants are automatically considered for entrance awards. Additional applications are not required.

For a full list of our awards and eligibility criteria, please visit our website **www.rotman.utoronto.ca/MMA**

The earlier you apply, the greater your chance for an entrance award.

Tuition fees

Fees applicable to students entering the program in 2023:

Domestic students	**International students**
$ 41,400	**$ 72,630**

Please note that all fees and awards are set annually and are subject to change. Costs do not include university incidental fees or compulsory ancillary fees.

Meet the team

If you want to learn more about MMA, please contact us for a one-on-one conversation with someone from our admissions team.

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Toronto, Ontario, Canada M5S 3E6

Web: **www.rotman.utoronto.ca/MMA**
Email: **MMA@rotman.utoronto.ca**

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Rotman   **Here's where it changes.**

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ACCREDITED