

FACULTY OF SCIENCE

Program Guide

Toronto
Metropolitan
University



Start your science journey

Turn your curiosity into positive change with the Faculty of Science at Toronto Metropolitan University (TMU). Here, science isn't just about textbooks — it's about diving deep into real-world challenges to discover novel, sustainable solutions.

From preserving clean water to developing smarter disease therapies to measuring financial risk, you'll be empowered to explore topics that interest you alongside expert faculty and innovative researchers.

With co-op opportunities and hands-on learning woven into every aspect of your education, you'll be immersed in a collaborative scientific community of students and dedicated professors, setting you up to shape a brighter future for yourself — and for us all.

torontomu.ca/science

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Undergraduate programs

10

Graduate programs

63

Minors to customize your degree

4,200+

Science students





Find your way

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Get experience with co-op

Build your résumé. Expand your professional network. Get paid work experience in the real world. With co-op available in all of our science programs, you can start applying your knowledge in a work setting before you graduate. In addition to developing expertise in your field, you'll also learn soft skills like communication, time management and problem solving while working with your choice of top employers, from Google to SickKids to RBC and many more.



\$97K+

Average potential co-op earnings over 16 months



“Through co-op, you get almost two full years of industry experience, confidence in technical interviews and a massive professional network.”

BEN CORNISH
Financial Mathematics
Class of 2021

93%
Employment rate of
science co-op students

12 to 20

Months of paid real-world
work experience



Discover research and innovation

From making your own discoveries to designing scientific innovations, we have everything you need to level up your learning. In the lab, you'll get a glimpse of graduate level research with opportunities to work with professors and master's and PhD students on groundbreaking research projects.

Outside of the lab and into the Science Discovery Zone — our hub of science entrepreneurship — you can work directly with industry leaders and entrepreneurs to find innovative solutions to real-world problems, network with Canada's leading scientific minds and maybe even launch your own startup, all while earning course credit.

20K

Square feet of research facilities at the MaRS Discovery District



100%

Science programs
with a thesis option



155+

Trainees within the Institute
for Biomedical Engineering,
Science and Technology (iBEST)

148

Startups launched in the
Science Discovery Zone



Explore student life

On campus or abroad, you'll find countless ways to make new friends, gain diverse perspectives and enhance your overall experience. Through hundreds of student groups, you'll connect with people who share your interests, from gaming to robotics and pre-med to anime. You'll also have the chance to get involved in student-run course unions to voice your ideas, grow your leadership experience and even run for office. On top of all that, you'll have the option to take part in a life-changing opportunity to travel and study in another country on exchange.

11

Countries where you can live and study abroad through the Global Science Citizen Program





25+

Faculty of Science
student groups

“I really like the culture at TMU because there are so many things to do and people to meet. It’s also really easy to get involved in science groups and other activities across the university.”

BENSON ZHANG
Mathematics and Its Applications, Student

400+

Student clubs and
organizations across TMU



Ease into first year

Make a smooth transition from high school to university with the help of our First Year Science Office. Here, you'll receive academic, administrative and personal support tailored to your needs. Through our Peer Academic Leaders in Science (PALS) program, you can be paired with an upper-year student who will guide you through your first year and offer insider tips on everything from course work to study skills, campus life and the best spot for pizza. With professors and an entire community committed to seeing you succeed, you'll be equipped to thrive during university and well into your career.



#1

University in Ontario
for student services

SCI 180

First-term course designed to boost
your learning strategies and study skills

First year preview

Your first year of university will be full of new experiences. Here's a preview of what a typical week in your first semester might look like.

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 a.m.			Lecture		
9:00 a.m.	Lab	Tutorial			
10:00 a.m.			Lecture	Lecture	Lecture
11:00 a.m.		Lecture			
12:00 p.m.			Tutorial	PALS event	Lecture
1:00 p.m.	Student learning group		Gym		
2:00 p.m.		Lecture	Lecture	Lecture	Résumé workshop
3:00 p.m.					
4:00 p.m.			Robotics club	Lab	
5:00 p.m.					

“Being paired with an upper-year student is fantastic. They show you resources, help with study-life balance and make first year fun.”

JAMIE RICE

Biomedical Sciences
Class of 2024 and PALS Program Lead

Sample required courses by program

Biology, Chemistry, Biomedical Sciences and Medical Physics

- BLG 143: Biology I
- CHY 103: General Chemistry I
- PCS 120: Physics I
- MTH 131: Modern Mathematics I
- CPS 118: Intro Prog for Scientists
- SCI 180: Orientation

Computer Science

- CPS 109: Computer Science I
- CPS 213: Computer Organization I
- MTH 110: Discrete Mathematics I
- PCS 110: Physics

Financial Mathematics

- ACC 110: Financial Accounting
- CPS 118: Intro Prog for Scientists
- ECN 104: Introductory Microeconomics
- MTH 207: Calculus and Comp Methods I
- BLG 143: Biology I
- SCI 180: Orientation

Mathematics and Its Applications

- CPS 109: Computer Science I
- MTH 110: Discrete Mathematics I
- MTH 207: Calculus and Comp Methods I
- BLG 143: Biology I
- SCI 180: Orientation

Pursue paid co-op, participate in industry-oriented research and complete an independent thesis project.



Biology

Bachelor of Science (BSc)

▪ Honours

Explore the nature of living things, from bacteria and cells to plants and animals. Here, you'll study ecology, microbiology, evolution, botany, genetics, cell biology and more. In your first year, you'll strengthen your math, research and science skills before applying them to real-world settings.

Whether you're peering through microscopes in one of our many on-campus labs or conducting field research in a range of areas, from human disease to climate change, a foundation in biology opens doors to a wide variety of future careers.

Your program

Full time: 4 years

Full-time co-op: 5 years

Common first year: Chemistry and Medical Physics

Specializations: Bioinformatics and Computational Biology ▪ Biophysics ▪ Environmental Biology
▪ Management Sciences

Your future

Careers: Bioinformatics Specialist ▪ Biotechnologist

▪ Botanist ▪ Environmental Scientist ▪ Geneticist
▪ Molecular Biologist ▪ Veterinarian ▪ Zoologist

Graduate pathways: Biology ▪ Dentistry ▪ Law

▪ Medicine* ▪ Pharmacy ▪ Veterinary Medicine

*TMU School of Medicine opening in 2025.

[torontomu.ca/programs/undergraduate/
biology](https://torontomu.ca/programs/undergraduate/biology)

“Thanks to TMU’s supportive culture, I’ve attended conferences, researched coral reefs in Mexico and explored my career options.”

JACKLYN CUNNINGHAM

Class of 2020

Make a meaningful contribution to healthcare through research opportunities with TMU's vast network of biomedical industry partners.



Biomedical Sciences

Bachelor of Science (BSc) • Honours

If you dream of a career in healthcare, this program is for you. Delve into the intricate workings of the human body, from cells to systems, as you uncover the mechanisms of disease and health.

Through hands-on labs and real-world experiences working with our biomedical industry partners, you'll develop a deep understanding of molecular and cell biology, genetics and genomics, as well as microbiology. You'll also have opportunities to engage in laboratory research, preparing you for a career in the biotechnology and pharmaceutical industries.

\$45

Potential hourly co-op wage

Your program

Full time: 4 years

Full-time co-op: 5 years

Specialization: Management Sciences

Your future

Careers: Biomedical Researcher • Biomedical Technologist • Biophysicist • Biostatistician • Epidemiologist • Genetic Counsellor • Quality Control Specialist • Regulatory Affairs Specialist

Graduate pathways: Dentistry • Law • Medicine* • Molecular Science • Pharmacy • Physiotherapy • Veterinary Medicine

*TMU School of Medicine opening in 2025.

torontomu.ca/programs/undergraduate/biomedical-sciences

Gain access to fully equipped labs, take part in an optional independent laboratory research project and pursue paid co-op.



Chemistry

Bachelor of Science (BSc) • Honours

If you're curious about how atoms combine to make matter in all forms and how molecules can be transformed into new and useful products, disease-fighting drugs or green technology to help the planet, this is the program for you.

In this lab-based curriculum, you'll conduct experiments, test hypotheses, address real-world problems and improve the quality of life for all. Plus, you'll have access to opportunities for paid co-op experience, lab research and more.

200+

Hours spent in the laboratory in your first 2 years

Your program

Full time: 4 years

Full time co-op: 5 years

Common first year: Biology and Medical Physics

Specialization: Management Sciences

Option: Applied Physics

Accreditation: Canadian Society for Chemistry

Your future

Careers: Biochemist • Clinical Trials Manager • Data Scientist • Electrochemist • Environmental Chemist • Food Chemist • Pharmacological Chemist • Product Development Scientist

Graduate pathways: Dentistry • Education • Law • Medicine* • Pharmacy • Veterinary Medicine

*TMU School of Medicine opening in 2025.

torontomu.ca/programs/undergraduate/chemistry

Computer Science

Bachelor of Science (BSc) • Honours

Unlock the power of science and technology to transform the digital world. From coding and AI to cybersecurity, and anything in between, this program equips you with the technical skills to turn theoretical knowledge into cutting-edge applications.

Through paid co-op, labs and research opportunities, you'll test and explore virtual reality, computer graphics and human-computer interaction, setting you up for a career working with some of the world's biggest tech companies like Google, Wealthsimple and more.

94%

Students employed in the field within 6 months of graduating

Your program

Full time: 4 years

Full time co-op: 5 years

Part time: First-year entry

Specialization: Management Sciences

Concentrations: Software Engineering

Your future

Careers: Cloud Systems Engineer • Cybersecurity Specialist • Data Scientist • Full-Stack Developer • Head of Platform Engineering • Network Architect • Software Developer • UX Engineer

Graduate pathways: Computer Science

• Data Science • Law

torontomu.ca/programs/undergraduate/computer-science

Position yourself for an in-demand career in one of North America's fastest growing tech job markets.



Financial Mathematics

Bachelor of Science (BSc) • Honours

Turn your love for numbers into a lucrative career in the fast-paced financial world. In this program, you'll learn how to drive the economy forward by leveraging cash flow and creating wealth.

With a solid foundation in economics, financial instruments and statistical techniques, coupled with a range of hands-on learning opportunities, you'll be ready to analyze markets, manage investments and evaluate risks. And then, you'll go out into the competitive financial sector and make your impact.

"Being close to Toronto's financial district means it's easy to make connections, attend conferences and find internships."

KAROLINA SUROWIEC

Class of 2021

Your program

Full time: 4 years

Full-time co-op: 5 years

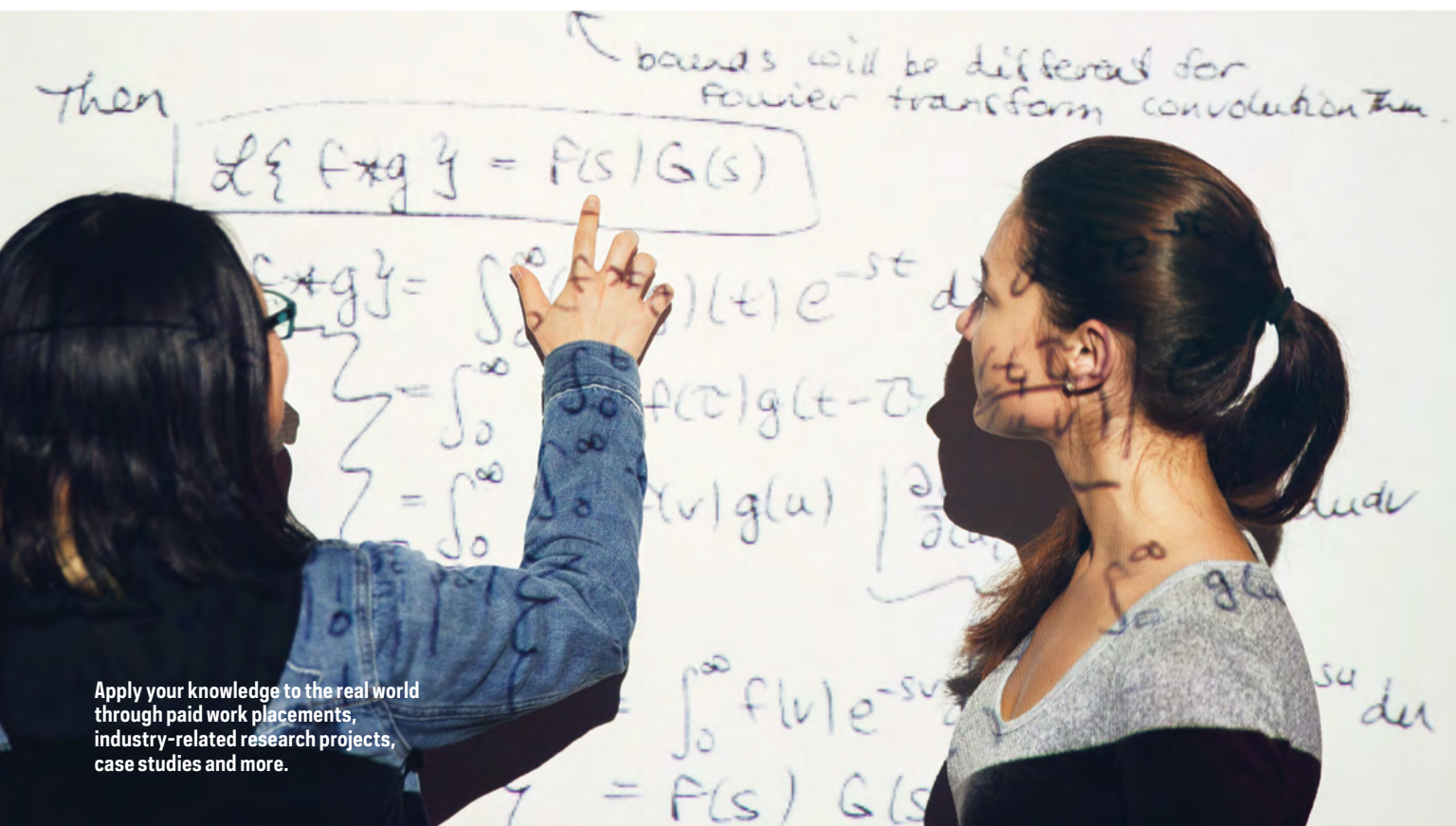
Specialization: Management Sciences

Your future

Careers: Auditor • Economist • Financial Planner
• Investment Banker • People Analytics Analyst
• Risk Manager • Statistician • Underwriting Analyst

Graduate pathways: Economics • Finance • Law
• Mathematics • MBA Management

[torontomu.ca/programs/undergraduate/
financial-mathematics](http://torontomu.ca/programs/undergraduate/financial-mathematics)



Apply your knowledge to the real world through paid work placements, industry-related research projects, case studies and more.

Apply your problem-solving and quantitative skills through paid work placements and research opportunities with leading organizations.



Mathematics and Its Applications

Bachelor of Science (BSc) • Honours

If you love solving problems using logic, principles and your own imagination, this dynamic program is for you. Here, you'll discover the versatility of mathematics as you apply it to complex problems from technology to disease to cryptography and beyond.

What you learn in the classroom, you'll apply in the field through paid work placements and research opportunities. Whether you study math on its own or combine it with another specialization, you'll become an in-demand professional with your choice of future careers.

94%

Students employed within 2 years of graduating

Your program

Full time: 4 years

Full-time co-op: 5 years

Part time: Available

Specialization: Management Sciences

Option: Computer Science • Economics

Your future

Careers: Actuary • Biostatistician • Cryptologist

• Data Scientist • Mathematical Modeller

• Quantitative Analyst • Research Analyst

• Video Game Designer

Graduate pathways: Economics • Law • Mathematics

• MBA Management

torontomu.ca/programs/undergraduate/mathematics-applications



Complete a thesis project and pursue a paid co-op placement with one of our existing hospital partners.

Medical Physics

Bachelor of Science (BSc) • Honours

Combine medicine and physics together and learn to apply both to the prevention, diagnosis and treatment of illnesses such as cancer. Through a combination of theoretical and hands-on learning, you'll explore concepts and methodologies in medical imaging, radiation therapy, radiation protection, health physics and more.

Take advantage of our vast connections with leading and local hospitals as you prepare for a unique career in a range of roles, from transforming healthcare and medicine to pushing businesses beyond the limits of convention.

1 of 5

Undergraduate Medical Physics programs in Canada

Your program

Full time: 4 years

Full-time co-op: 5 years

Common first year: Biology and Chemistry

Specialization: Management Sciences

Your future

Careers: Clinical Medical Physicist • Complex Systems Physicist • Computational/Data Physicist • Dentist
• Entrepreneur • Lab Assistant • Medical Imaging Assistant
• Radiation Therapist

Graduate pathways: Dentistry • Education • Law
• MBA Management • Medicine* • Medical Physics
• Optometry • Pharmacy • Physics • Veterinary Medicine

*TMU School of Medicine opening in 2025.

torontomu.ca/programs/undergraduate/medical-physics

“At TMU, we are excited to engage science students in the co-creation of authentic experiences that provide practical solutions to real-world problems. Regardless of your program, applying the scientific method provides insight into data-based decision making — a valuable skill that creates pathways to any career you wish to pursue.”

DR. DAVID CRAMB
Dean, Faculty of Science
Toronto Metropolitan University

Ready to apply?

Scan the code below or visit torontomu.ca/admissions/undergraduate/apply for detailed instructions on how to apply to become a Faculty of Science student at TMU.



Let's connect



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@TorontoMetScience



@ChooseTMU

**Toronto
Metropolitan
University**

**Faculty of
Science**

Toronto is in the "Dish with One Spoon Territory."

The Dish with One Spoon is a treaty between the Anishinaabe, Mississaugas and Haudenosaunee that bound them to share the territory and protect the land. Subsequent Indigenous Nations and peoples, Europeans and all newcomers have been invited into this treaty in the spirit of peace, friendship and respect.