



UNIVERSITY OF TORONTO  
FACULTY OF APPLIED SCIENCE & ENGINEERING



**DISCOVER**  
**ENGINEERING**  
**VIEWBOOK 2024-2025**



## 150 YEARS

U of T Engineering  
turned 150  
years old in 2023

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## 29%

International  
students in  
first-year engineering  
studies

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## 400+

Companies employ

## 800+

engineering co-op  
students each year

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## 100+

Countries our  
students call home

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## \$15.7B

Injected into the  
Canadian  
economy per year  
as a result of  
U of T's research

## 40%

For the past  
seven years,  
U of T Engineering's  
first-year class has  
been near or above  
40% women, the  
highest proportion  
in Canada

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## #1

U of T is first in  
Canada and 21st  
in the world for  
producing the  
most employable  
graduates  
(QS Graduate  
Employability  
Rankings 2022)

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## 160+

Partner universities  
worldwide for  
study or research  
opportunities

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## 25

Engineering minors  
and certificates  
to customize  
your degree

## 100+

Engineering student  
clubs and teams  
to explore

# Table of Contents

<b>FROM IDEA TO REALITY</b>	<b>2</b>
<b>TORONTO</b>	<b>4</b>
<b>STUDENT LIFE</b>	<b>6</b>
<b>CO-OP &amp; CAREER</b>	<b>8</b>
<b>YOUR FIRST YEAR</b>	<b>10</b>
<b>ACADEMIC CUSTOMIZATION</b>	<b>12</b>
<b>ACADEMIC PROGRAMS</b>	<b>14</b>
» TrackOne, Undeclared	
» Chemical Engineering	
» Civil Engineering	
» Electrical & Computer Engineering	
» Industrial Engineering	
» Materials Engineering	
» Mechanical Engineering	
» Mineral Engineering	
» Engineering Science	
<b>ADMISSIONS &amp; FINANCES</b>	<b>20</b>





# GREAT IDEAS ARE JUST THE BEGINNING — WE HELP YOU MAKE THEM A REALITY

Our students, researchers and alumni come from more than 100 countries and a rich spectrum of backgrounds and lived experiences. There's a common thread that unites us: we don't take the world as a given.

When you choose U of T Engineering, you are choosing an education that goes beyond technical abilities. You are choosing an inclusive environment that nurtures entrepreneurial thinking. You are choosing experiences that prepare you for career pathways that don't yet exist. You are choosing to learn from mentors who empower you to consider the social, economic, ethical and cultural contexts that drive engineering solutions.

Whether you aspire to improve access to clean water, leverage AI to enhance health care or create next-generation vehicles to support a sustainable future, your success depends on being able to design holistically, collaboratively and with a global perspective.

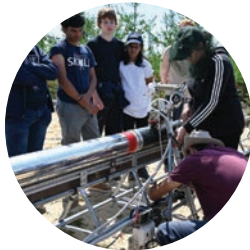
That's what you'll find at U of T Engineering.





# A DYNAMIC ECOSYSTEM TO LAUNCH BOLD SOLUTIONS FOR A BETTER WORLD

We are proud of all the ways our students and alumni inspire change in their communities, in Canada and around the world. We look forward to helping you harness your potential as an engineer for the world.



In August 2022, the **UofT Aerospace Team** Rocketry division launched Canada's first-ever experimental hybrid rocket. Propelled by a mix of solid fuel and a liquid oxidizer, the rocket — named *Defiance* — soared 21,000 feet, leading them to a first-place finish at Launch Canada, an intercollegiate student competition.



As an undergraduate research assistant, **Adriana Diaz Lozano Patiño** supported studies on sustainable sanitation and water desalination in Bangladesh and in Mexico City, near where she grew up. She is the recipient of the 2023 Troost ILead Difference Maker Award, which includes a \$50,000 prize that will help support her fieldwork in Mexico.



**Satya Sathwik Juttada's** team won first place at the Global Challenge Lab 2022, hosted by Imperial College in the U.K. The team's app aims to reduce air pollution in India that derives from burning stubble residue — leftovers after harvest — by offering farmers access to stubble-removing machines. The app allows local machinery owners to rent their equipment to farmers.



# LIFE IN TORONTO



Learn more:  
[uofteng.ca/toronto](http://uofteng.ca/toronto)

With more than 140 cultures represented across 158 neighbourhoods, Toronto is a welcoming place where the world comes together. As North America's fourth-largest and safest city, Toronto is a cosmopolitan hub for arts, culture, food, sports, technology and business.

We take full advantage of our prime location in the heart of Toronto, collaborating with our neighbours in the MaRS Discovery District, world-class hospitals and more. Global brands and homegrown startups have a strong presence in Toronto, offering plenty of opportunity to build your network, leverage alumni connections and secure co-op and summer positions. It's no wonder our city ranks in the top three North American cities for tech talent\*.

\*2022 CBRE Tech Talent Ranking



**The Entertainment District** is buzzing with live theatre and music. It's also home to two stadiums that host large concert and sporting events.



**The CN Tower** stands 553 metres tall, offering breathtaking city views.



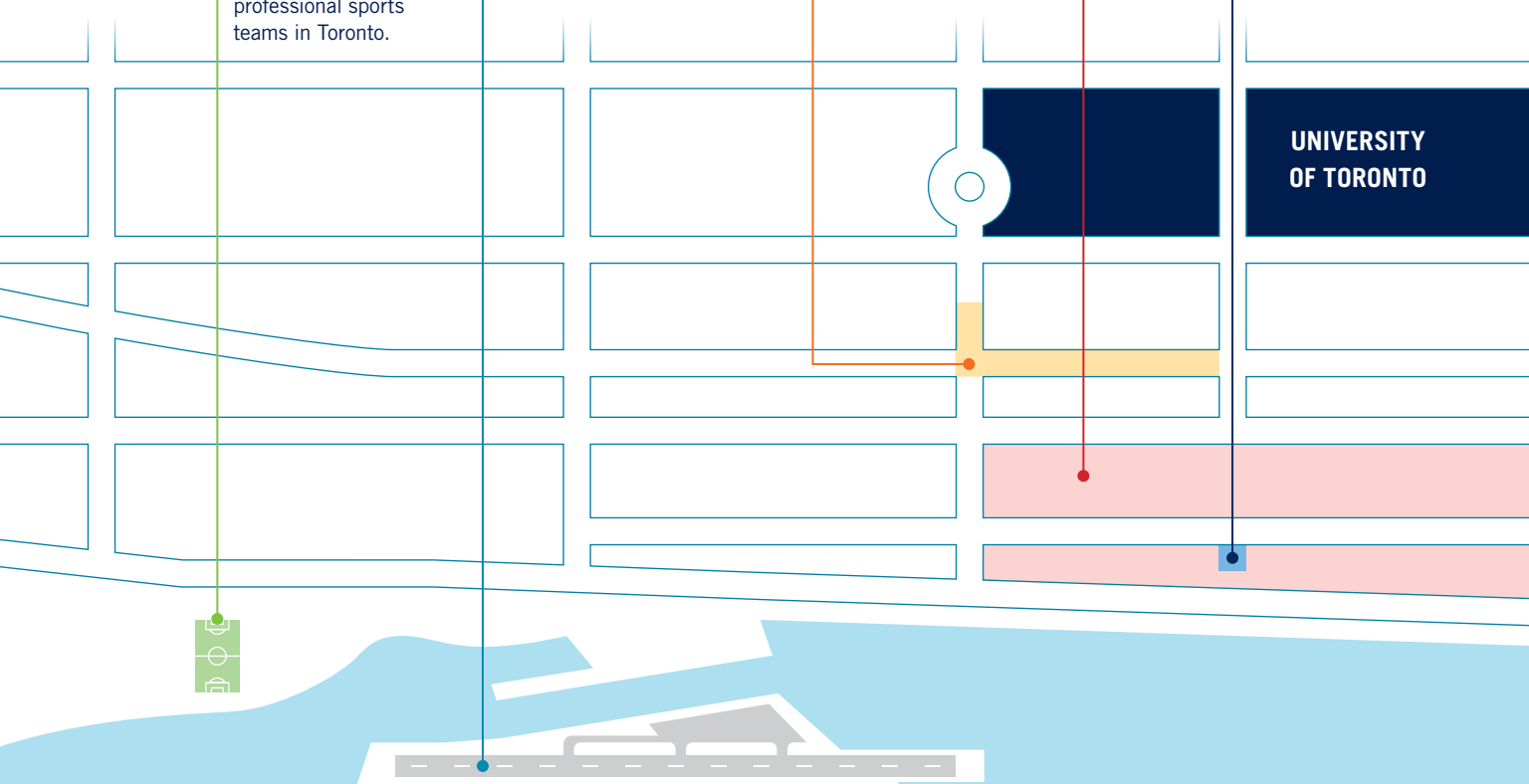
**BMO Field** is home of the TFC, one of seven professional sports teams in Toronto.



**Billy Bishop (YTZ)** is one of two airports in Toronto. **Pearson International (YYZ)** is a short train ride from Union Station.



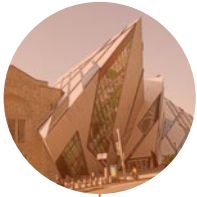
**Chinatown** is one of several cultural enclaves within walking distance of campus.





“Toronto’s vibrant multicultural scene holds the key to unlocking an extraordinary university experience. When I moved from Tanzania, I really embraced the diverse cultures that thrive here. It’s helped me forge lifelong connections that transcend borders.”

— Mahmoud Rashid (Year 2, Materials Engineering)



**The Royal Ontario Museum** contains 13 million artifacts from across the ages.



**Hospital Row** is a stretch of hospitals and research centres, many of which partner with UofT and employ our students.



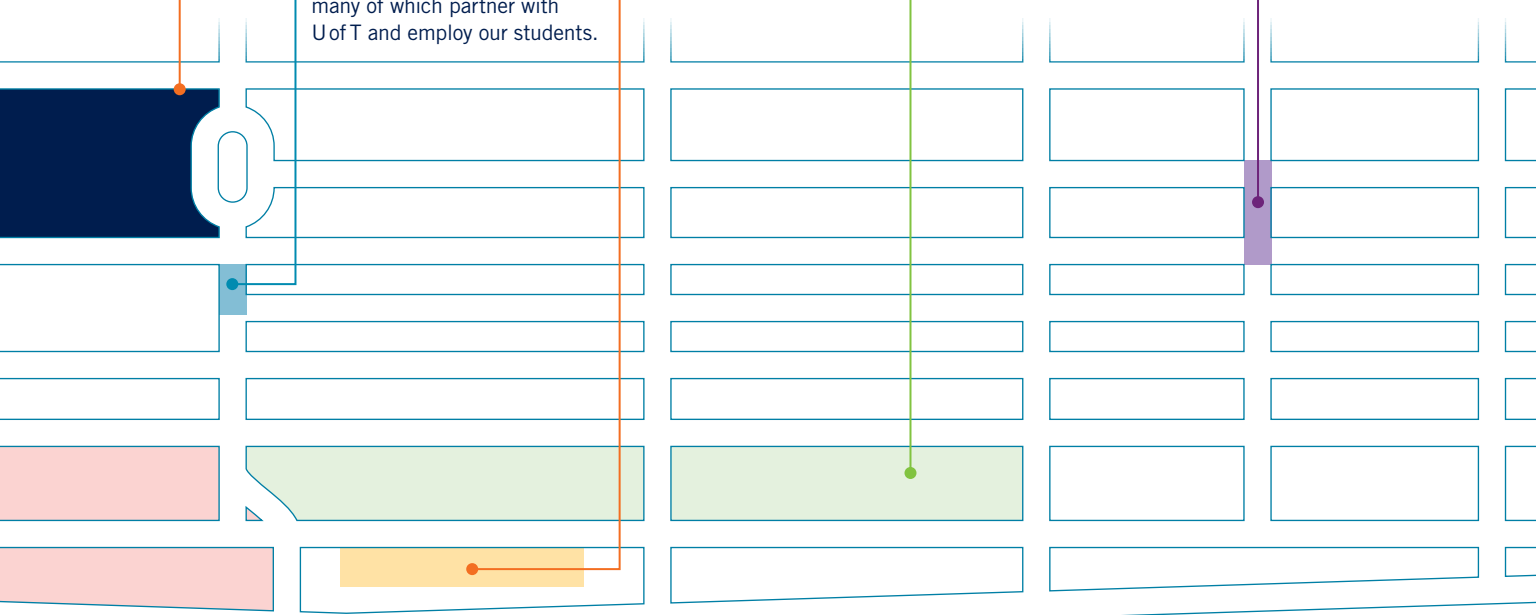
**Union Station** is a transportation hub of trains, subways, streetcars and buses. It’s also part of the largest underground network of pedestrian pathways in the world.



**The Financial District** is the heart of Canada’s banking and mining industries.



**Church-Wellesley Village** is home to Toronto’s annual Pride Parade.



**TRADITIONAL LAND ACKNOWLEDGEMENT**

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

# VIBRANT STUDENT LIFE



Learn more:  
[uofteng.ca/studentlife](http://uofteng.ca/studentlife)

From the earliest days of our 150-year history, students have referred to UofT Engineering and its community spirit as Skule™ (pronounced “school”).

Community pride, passion and camaraderie run strong among our students inside and outside of the classroom. Whatever your interests or hobbies — from designing a solar-powered vehicle to playing in a music ensemble — there is a student group or co-curricular activity for you. Can't find one that suits your interests? We provide the support to start your own.



@ogmah



Maybe the real iron rings were the friends we made along the way.



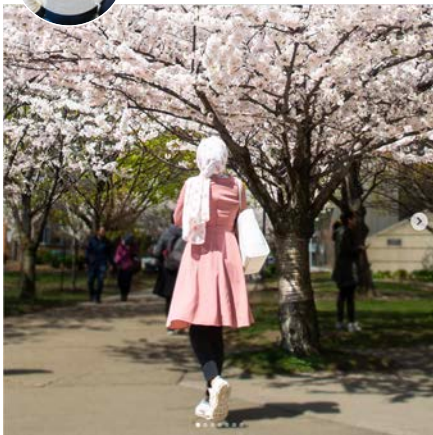
@skulenite



First in person show since 2020. Are you ready for it?



@uoftengineering



Stop by @uoftlibraries Robarts Library to witness the blooms in all their glory 🌸💖.



@emmettbravakis



Back to back OUA Champ. Next stop USports.

## 100+

U of T Engineering clubs or teams (800+ across U of T)



@uoftengdean



#Skule in the house 👍👍👍  
@uoftengineering – amazing vibe this morning as #froshweek starts off with #Matriculation. So much energy and enthusiasm! 🤔🤔 It's going to be a spectacular year.



@uoftengineering



Memories made ✨💙: Photos from yesterday's #UofTEngineering Spring Convocation ceremonies are now live on Flickr 📷: [uofteng.ca/Classof2T3](http://uofteng.ca/Classof2T3) #UofTGrad23 #Classof2T3





@uoftbog



Great day for a toboggan race! Proud of our team for fastest toboggan and winning the King (Queen) of the Hill competition!! So much hard work and creativity went into this and we are very proud of our team! Thanks to the organizing committee, all the other teams, our SKULE community, and all of our amazing sponsors! Here's to going fast! #builtdifferent #ikeabogg #Svetlana #gnctr2023



@bngcommittee



Wowee!

@pridetoronto was absolutely incredible this year and we are so thankful for all the people who helped build the float, volunteered to help with the event and marched with us. All of you are so wonderful 🌈

Thank you so much to @uoftengineering Positive Space and to @uoftengsoc for making this possible.

Happy Pride Everyone!



@liz.quemada



Thank you @colchrishadfield for inspiring others to keep looking up! A great honour to meet and hear him speak at our @uoftengineering 150 gala 🎩 #skule150



@humans.of.skule



Humans of Skule x Engineering Stores @uoftengstores Leather Jacket Series 6

“To me, the leather jacket is a symbol of belonging, Skule history, and hard-work. I love how the jacket can be dressed up or down, and gets me through a long day in any weather. I know I’ll be wearing it for years to come.”

- Adele Crete-Laurence  
EngSci (Aero) 2T4 📷: Natalie Chan



@chestnutresidence



Fuel up with breakfast and dinner at the Chestnut Dining Hall this summer! 🔍🍌

#chestnutresidence



@uoftengineering



A team of @UofT students, including #UofTEngineering’s Hassaan Inayatali, has won the @NFL Big Data Bowl with their ‘pocket pressure’ statistical model 🏈🏆🏆: <http://uofteng.ca/rhGIQy>



Follow @uoftengineering on Instagram & Facebook for more views of life as a U of T Engineering student.

📷 @uoftengineering

📘 /uoftengineering

# PEY CO-OP: DESIGNED FOR FUTURE ENGINEERING PROFESSIONALS

Learn more:  
[uofteng.ca/coop](http://uofteng.ca/coop)

You can graduate with up to 20 months of meaningful work experience while earning a competitive salary, creating an extensive network and gaining professional skills you'll leverage for years to come.

The **Professional Experience Year Co-op Program (PEY Co-op)** has kickstarted the careers of thousands of U of T Engineering students since its launch in 1979. This flagship work-experience program was designed by the Engineering Career Centre in collaboration with industry partners and engineering leadership experts to help you build your professional profile and prepare for long-term career success.

“Battery technology is an exciting space right now in the electric vehicle industry. I saw this first-hand during my 16-month PEY Co-op at Litens where I worked on product design. The length of my work term also meant I had the freedom to lead a cell dissection and battery characterization project, and see how all divisions of engineering come together as a team.”

— **Aryan Baweja** (Year 4, Chemical Engineering)

## YOUR PEY CO-OP JOURNEY INCLUDES UP TO 20 MONTHS OF WORK EXPERIENCE

### YEARS 1 & 2

Engage in programming designed to orient you to different industries and set professional goals. You'll also practice the skills you will use to secure employment during the co-op recruitment cycle and beyond.

### SUMMER WORK TERM

Leveraging our connections with employers worldwide, you can pursue an opt-in four-month co-op work term in the summer before Year 3.

### YEAR 3

Apply to and interview for co-op positions that align with your professional goals. You'll have access to 2,700+ jobs around the world and across every sector.







**94%**

of first-year students opted into PEY Co-op last year. You'll have the opportunity to indicate your interest in PEY Co-op during the U of T Engineering application process.

**\$56,000 CAD**

is the average PEY Co-op salary earned over a 12-month period last year (highest was \$124,000 CAD). All co-op positions are paid.

**400+**

hiring companies worldwide at your fingertips, including Deloitte, Canadian Nuclear Laboratories and Bombardier.

## PROFESSIONAL EXPERIENCE YEAR WORK TERM

During this year, you'll pause your studies and immerse yourself as a full-time employee. Working for 12 to 16 consecutive months will give you ample opportunity to make meaningful professional contributions and build a valuable network.

## YEAR 4

You'll return to your final year of study having acquired work experience and professional skills that will complement your academic studies. Many students graduate with a job offer in hand.

# PREPARING YOU FOR SUCCESS



Learn more:  
[uofteng.ca/success](http://uofteng.ca/success)

From an academic perspective, your first year at U of T Engineering is about establishing fundamental knowledge in mathematics, applied sciences, engineering principles and design processes — regardless of the specific engineering program you choose. This means studying the same subjects as your peers, building your community and gaining hands-on design experience from day one. You will have 25 to 30 hours of class per week, leaving you with enough time to study, stay healthy and get involved in co-curricular or extracurricular activities.

## THE FIRST-YEAR CURRICULUM DEPENDS ON YOUR PROGRAM OF STUDY:

Students in the **Core Programs** take most of the same courses in first year, with a few program-specific courses in the Winter Term. The Core Programs include:

- » TrackOne
- » Chemical Engineering
- » Civil Engineering
- » Computer Engineering
- » Electrical Engineering
- » Industrial Engineering
- » Materials Engineering
- » Mechanical Engineering
- » Mineral Engineering

Students in the **Engineering Science Program** (EngSci) take their fundamental courses across two years before specializing in one of eight majors. See page 19 for an overview of Years 1 and 2 of the EngSci program, otherwise known as the Foundation Years.



# 94%

of first-year engineering students move into second year. For those who choose a different path, academic advisors are available to help them navigate program transfers.

## First-year courses for Core Programs

### Fall Term

- » Orientation to Engineering
- » Engineering Strategies & Practice I
- » Mechanics
- » Engineering Chemistry & Materials Science
- » Linear Algebra
- » Calculus I

### Winter Term

- » Intro to your discipline (e.g., Civil students take Intro to Civil Engineering; TrackOne students take Intro to Engineering)
- » Engineering Strategies & Practice II
- » Programming (Python or C)
- » Calculus II
- » Dynamics, Chemistry or Materials Science
- » Discipline-relevant fundamentals (e.g., Electrical, Computer, Mechanical, Industrial, Materials and TrackOne students take Electrical Fundamentals)



“Through my Engineering Strategies & Practice courses, I worked on a team to design a real solution for a real client in the community. The design methods I learned were useful right away as a member of the RSX design team. I’m far more intentional with my designs because of these courses.”

— Ksenya Narkevich  
(Year 2, Mechanical Engineering)



## SUPPORTING YOUR UNIQUE NEEDS

Your first year is also about transitioning into life as a university student. Our tight-knit community thrives because success is a shared goal. You’ll find support among your fellow classmates, from your professors and teaching assistants, and from staff members who facilitate a range of specialized services that address the unique needs of engineering students.

**First Year Office:** Personalized guidance and special offerings, including preparatory programming in the summer ahead of first year.

**Registrar’s Office:** Facilitates access to learning strategists, wellness counsellors and specialized advisors for accessibility, financial aid and for international student support.

**Chestnut Residence:** Offers ongoing support from an on-site Student Life Programs Coordinator.

**Office of Diversity, Inclusion & Professionalism:** Dedicated to creating an environment and culture free of harassment, discrimination and intolerance.

**Mental Health Programs Officer:** Supports you in navigating resources and leads initiatives to enhance student well-being.

**Engineering Career Centre:** Facilitates the PEY Co-op Program. (See page 8)

### Additional on-campus supports and services available to all U of T students:

- » Academic Success Centre
- » Accessibility Services
- » Anti-Racism & Cultural Diversity Office
- » Campus Safety
- » Centre for International Experience
- » Discovery Pharmacy
- » First Nations House
- » Health & Wellness Centre (with access to 24/7 counselling support)
- » Multi-Faith Centre
- » Sexual & Gender Diversity Office

# CUSTOMIZE YOUR EXPERIENCE



Learn more:  
[uofteng.ca/customize](https://uofteng.ca/customize)

A hallmark of the U of T Engineering experience is the ability to tailor your degree to meet your developing interests. This takes shape in numerous ways, including engineering minors and certificates, leadership programming, access to a startup incubator, local and global research opportunities, study abroad opportunities, work-integrated learning through the PEY Co-op Program (see page 8) and so much more.

## MINORS & CERTIFICATES

An engineering minor or certificate is a powerful way to graduate with an extra set of credentials, or explore an area of interest, while earning your degree. U of T Engineering is uniquely positioned to create such diverse program options because of our far-reaching research expertise. Many programs are offered in partnership with other divisions of U of T, such as the Rotman School of Management, Faculty of Music and Munk School for Global Affairs & Public Policy, giving you a truly interdisciplinary learning experience. You can obtain a minor or certificate by focusing your elective courses — in general six courses for a minor and three for a certificate — on a particular area. Engineering students also have access to minors offered through U of T's Faculty of Arts & Science.



# 76%

of engineering students graduated with a minor or certificate in 2023

### Engineering Minors

- » Advanced Manufacturing
- » Artificial Intelligence
- » Bioengineering
- » Engineering Business
- » Environmental Engineering\*
- » Music Performance
- » Nanoengineering
- » Robotics & Mechatronics
- » Sustainable Energy\*
- » U of T Global Leadership

### Engineering Certificates

- » Artificial Intelligence Engineering
- » Communication
- » Engineering Business
- » Engineering Leadership
- » Entrepreneurship, Innovation & Small Business
- » Forensic Engineering
- » Global Engineering\*\*
- » Justice, Equity, Diversity & Inclusion in Engineering
- » Mineral Resources
- » Music Technology
- » Nuclear Engineering
- » Public Health & Engineering
- » Public Policy & Engineering
- » Renewable Resources Engineering

\* Part of U of T's Sustainability Scholar designation.

\*\* Part of U of T's Global Scholars designation.





“I tailored my degree to suit my interests and passions by completing a minor in Environmental Engineering, a certificate in Global Engineering, a summer research placement in the U.S., a PEY Co-op at an energy decarbonization consulting firm and the Troost ILead Summer Fellowship. These experiences helped me advance my knowledge of equitable energy transition, expand my network and hone the skills I needed to launch my career.”

— **Lauren Streitmatter** (recent grad, Engineering Science)

## LEADERSHIP

Leadership education is about learning how to effectively handle complex challenges that often mean the difference between success and failure. Engineers are traditionally taught to think analytically and systematically. Through the academic courses and co-curricular programs offered by our Troost Institute for Leadership Education in Engineering (Troost ILead), you can build on these strengths to become a more effective engineer.

## ENTREPRENEURSHIP

The Entrepreneurship Hatchery is a vital part of a thriving entrepreneurial ecosystem at U of T. It combines experienced mentorship, engaging programming and access to resources to provide you with an incubator for your business ideas. Championed by some of Canada's foremost innovators and business professionals — many of whom are U of T Engineering alumni — the Hatchery is creating countless new opportunities for the next generation of entrepreneurs.

## SUMMER RESEARCH

Advance the frontiers of engineering and science through a summer research position at U of T or an international partner university. You'll return to class in the fall with practical research skills, a heightened sense of curiosity and an expanded network of research mentors and peers. Each year, more than 100 students present their summer research at the Undergraduate Engineering Research Day (UnERD) on campus.

## STUDY ABROAD

The practice of engineering transcends borders. Successful engineering leaders are well versed in the social, economic and cultural contexts in which their innovations will be applied. What better way to gain a new perspective than to immerse yourself in a new culture? U of T is a truly global university, with 160+ academic partnerships all around the world. This means you can take courses for credit at another world-class university while studying at U of T.



**5,800+**

undergraduates

**1,700+**

international students

**270+**

faculty members

**25+**

research institutes

**9**

academic departments

## PROGRAMS AT A GLANCE

Your courses are led by world-renowned professors and industry experts who will challenge you to explore how technology, innovation and society intersect. Throughout your academic journey, you will apply your skills and knowledge in the real world by working with companies, NGOs and academic partners — both locally and abroad.

Regardless of the specific program you choose to study at U of T Engineering, there is a wide selection of career paths available to you after graduation across a variety of existing and emerging sectors. Whether you plan to work in industry, start your own business or pursue further studies, you will graduate equipped with the strong technical fundamentals, practical engineering knowledge and diverse perspectives needed to address any challenge.

Students in the Core Programs graduate with a Bachelor of Applied Science (BASc) degree. Engineering Science students graduate with a Bachelor of Applied Science in Engineering Science. Our programs are accredited by the Canadian Engineering Accreditation Board and our degrees are recognized worldwide.

“My degree taught me how to work hard, how to work well under pressure, how to problem solve, how to learn a lot of skills and information very quickly and how to be comfortable with failure. These are the skills I needed when stepping foot into the demanding and fast-paced aerospace industry.”

— **Anais Poirer** (recent grad, Electrical Engineering)







## TrackOne, Undeclared Engineering

[www.uofteng.ca/trackone](http://www.uofteng.ca/trackone) Learn more:

TrackOne is a first year designed for students interested in exploring all fields of engineering before joining one of the Core 8 programs in second year. As a TrackOne student, you'll spend your first year taking a wide range of courses and becoming familiar with various disciplines — helping you forge relationships across engineering programs. This approach helps you discover your interests within U of T Engineering while developing a strong foundation in key engineering principles.

After successfully completing TrackOne, you will select the Core 8 program of your choice — Chemical, Civil, Computer, Electrical, Industrial, Materials, Mechanical or Mineral — for the remaining three years of your BSc degree.

### HELPING YOU DECIDE

The “Introduction to Engineering” course explores how each engineering field contributes to society, helping you choose your best fit within the Core 8 programs as you transition to second year. Support from a dedicated TrackOne advisor will also help you with your decision. The TrackOne curriculum is designed to parallel the courses taken by first-year students in the Core 8 programs, providing students with a smooth transition into second year.

\* TrackOne students who complete their first year with a 60% average in Fall and Winter terms are eligible to transfer to the Core 8 program of their choice in second year.

## Chemical Engineering

[www.uofteng.ca/chemical](http://www.uofteng.ca/chemical) Learn more:

Chemical engineers combine chemistry, biology, math and design to solve global challenges and create innovative processes and products. As one of the top chemical engineering programs in Canada, U of T Engineering is at the forefront of research to develop renewable fuels and energy sources, use biotechnology to clean up pollution, manufacture products sustainably, create artificial organs, and fortify foods to address malnutrition. You'll put theory into practice in innovative courses and laboratories, including the unique Unit Operations Lab, filled with large-scale industrial equipment and a two-storey distillation column.

### AREAS OF FOCUS

- » Biomolecular & Biomedical Engineering
- » Bioprocess Engineering
- » Chemical Engineering
- » Environmental Science
- » Informatics
- » Materials Development & Process Engineering
- » Pulp & Paper
- » Surface & Interface Engineering
- » Sustainable Energy

### SAMPLE PEY CO-OP EMPLOYERS

- » Air Liquide Laboratories (Japan)
- » Environment & Climate Change Canada
- » Ontario Power Generation
- » Peel Plastics Products Ltd.
- » Sanofi Pasteur

### SAMPLE CAREER TRAJECTORIES

- » Advanced Manufacturing of Biochemicals
- » Bioprocessing
- » Finance
- » Food Fortification
- » Management Consulting



## Civil Engineering

Learn more: [uofteng.ca/civil](http://uofteng.ca/civil)

Civil engineering focuses on the design, infrastructure and sustainability of the structures and systems that support our daily lives, from the deepest tunnels to the tallest buildings. You will learn from global experts in some of the world's most advanced and unique facilities, like the beautiful Gull Lake — located three hours north of Toronto — where you will learn the art and science of land and water surveying during a two-week camp.

### AREAS OF FOCUS

- » Building Science
- » Construction Management
- » Environmental Engineering
- » Mining & Geomechanics
- » Structural Engineering
- » Transportation Engineering & Planning

### SAMPLE PEY CO-OP EMPLOYERS

- » Aecon Construction
- » EllisDon
- » Hydra Engineering & Construction (U.S.)
- » IBI Group (U.S. and Canada)
- » WSP

### SAMPLE CAREER TRAJECTORIES

- » City Planning
- » Energy Use and Supply
- » Environmental Management
- » Transportation and Infrastructure
- » Water Treatment and Sustainable Use



## Electrical & Computer Engineering

Learn more: [uofteng.ca/ece](http://uofteng.ca/ece)

Electrical and computer engineers find innovative ways to harness electricity, electronics and computing paradigms to improve people's lives. In the first two years of both programs, you'll study engineering design, math, computer programming, digital systems and electronics. The upper years are flexible, enabling you to suit your interests by focusing on at least two of six cutting-edge focus areas. The electrical and computer engineering (ECE) programs are housed within the same department, giving you access to a breadth of engineering theory and practice to launch your career in fields like artificial intelligence, health care, sustainability and more.

### AREAS OF FOCUS

- » Software
- » Computer Hardware & Networks
- » Analog & Digital Electronics
- » Communications, Signal Processing & Control
- » Electromagnetics & Energy Systems
- » Photonics & Semiconductor Physics

### SAMPLE PEY CO-OP EMPLOYERS

- » IBM
- » Intel
- » NVIDIA (U.S.)
- » Scotiabank
- » Tesla (U.S.)

### SAMPLE CAREER TRAJECTORIES

- » Big Data
- » Computer Security
- » Machine Learning & Artificial Intelligence
- » Medical Device Design
- » Sustainable Energy





## Industrial Engineering



Learn more:  
[uofteng.ca/industrial](http://uofteng.ca/industrial)

Industrial engineers improve the way people interact with technologies and systems. They help organizations run safely, efficiently and sustainably. You will begin the program by learning the foundations of industrial engineering: operations research, programming and human-centred design. In your upper years, you'll take courses ranging from engineering psychology to data analytics to business process optimization. Industrial engineers see 'the big picture,' and apply their expertise everywhere, from streamlining health-care systems to rethinking supply chains and the online user experience in the era of artificial intelligence.

### AREAS OF FOCUS

- » Human Factors
- » Information Engineering
- » Operations Research
- » Artificial Intelligence & Machine Learning

### SAMPLE PEY CO-OP EMPLOYERS

- » CIBC
- » FedEx Express
- » Kijiji
- » Proctor and Gamble
- » Walmart

### SAMPLE CAREER TRAJECTORIES

- » Big Data Analytics
- » Financial Analysis and Planning
- » Health-care Engineering
- » Management Consulting
- » Project Management

## Materials Engineering



Learn more:  
[uofteng.ca/materials](http://uofteng.ca/materials)

Materials engineers design and develop new materials and advance processes for producing materials sustainably. You'll learn how to manipulate the structure and properties of materials at molecular and atomic levels from professors who have expertise with a range of applications, including renewable energy, biomaterials, automotive and aerospace. You'll graduate with a solid foundation in how materials behave, and experience in using state-of-the-art characterization techniques and computer simulations.

### AREAS OF FOCUS

- » Biomaterials
- » Computational Materials & AI
- » Design of Materials
- » Manufacturing with Materials
- » Sustainable Materials Processing

### SAMPLE PEY CO-OP EMPLOYERS

- » AMD
- » Celestica
- » Enbridge
- » e-Zinc
- » Husky Injection Molding

### SAMPLE CAREER TRAJECTORIES

- » Advanced Electronics
- » Biomaterials Engineering
- » Clean Technologies
- » Forensic Engineering
- » Manufacturing



## Mechanical Engineering

Learn more: [uofteng.ca/mechanical](http://uofteng.ca/mechanical)

Mechanical engineers understand the world as parts in motion: from cars to medical devices, all design uses mechanical engineering principles. Our program is renowned for its applied approach, where you can put theory into practice through unique experiential opportunities both in the lab and in the field. You'll take courses in physics, risk assessment, thermodynamics, biomechanics and sustainable energy. You will also have the opportunity to learn about the physical principles of design: how individual components come together, and how to manufacture objects to make them safe, economical and easy to use.

### AREAS OF FOCUS

- » Bioengineering
- » Energy & Environment
- » Manufacturing
- » Mechatronics
- » Solid Mechanics & Design

### SAMPLE PEY CO-OP EMPLOYERS

- » Bombardier
- » Norsk Titanium (Norway)
- » Ontario Power Generation
- » Tesla (U.S.)
- » Toronto Transit Commission

### SAMPLE CAREER TRAJECTORIES

- » Advanced Manufacturing
- » Artificial Intelligence
- » Communications Systems
- » Robotics
- » Sustainable Energy

## Mineral Engineering

Learn more: [uofteng.ca/mineral](http://uofteng.ca/mineral)

Mineral engineering is the applied science of our interaction with the planet. What sets the Lassonde Mineral Engineering program apart is our broad approach to the discipline. Here, you'll learn mineral exploration, mine design and management, mineral processing and mining finance from our professors and working industry professionals. Toronto is an excellent place to study mineral engineering: the city is considered the mining capital of the world and home to more than 1,600 mining companies on U of T's doorstep.

### AREAS OF FOCUS

- » Environmental Impact & Risk Assessment
- » Mine Design
- » Mineral Processing
- » Mining Economics & Finance
- » Surface & Underground Mining
- » Water Management

### SAMPLE PEY CO-OP EMPLOYERS

- » Imperial Oil
- » Kinross Gold Corp.
- » Newmont
- » Teck Resources Limited
- » Vale

### SAMPLE CAREER TRAJECTORIES

- » Consulting
- » Financial Institutions
- » Mine & Business Management
- » Strategic Planning
- » Sustainable Mining Practices





# Engineering Science

Learn more: [uofteng.ca/engsci](http://uofteng.ca/engsci)

One of the most distinguished engineering programs in the world, Engineering Science (EngSci) is for students who are excited about collaborating with diverse peers to tackle global challenges. This program's unique curriculum structure differs from that of the Core 8 and TrackOne programs at U of T Engineering.

## FOUNDATION YEARS: YEARS 1 & 2

In your first two years of EngSci, you'll be immersed in engineering, mathematics, science, computing and social science. Through a course series called Praxis, you'll learn about the engineering design process by working in teams with community partners on real-world challenges.

### YEAR 1

- » Calculus I & II
- » Linear Algebra
- » Engineering Mathematics & Computation
- » Computer Programming
- » Computer Algorithms & Data Structures
- » Electric Circuits
- » Classical Mechanics
- » Structures & Materials
- » Molecules & Materials
- » Praxis I & II

### YEAR 2

- » Vector Calculus & Fluid Mechanics
- » Ordinary Differential Equations
- » Probability & Statistics
- » Digital & Computer Systems
- » Thermodynamics & Heat Transfer
- » Waves & Modern Physics
- » Electromagnetism
- » Quantum & Thermal Physics
- » Biomedical Engineering
- » Praxis III
- » Engineering & Society
- » Complementary elective

### SAMPLE PEY CO-OP EMPLOYERS

- » Genesys Canada Laboratories Inc.
- » Intel
- » Royal Bank of Canada
- » Untether AI
- » Veoware (Belgium)

### SAMPLE CAREER TRAJECTORIES

Roughly half of EngSci grads pursue graduate studies in engineering and science or professional degrees such as business, medicine and law. Many enter the workforce in a wide range of careers across all industries or start their own companies.

## MAJORS: YEARS 3 & 4

In your last two years, you'll build on your multidisciplinary foundation in one of eight majors for accelerated, discipline-specific learning. Teamwork, resiliency and determination are keys to success in this rigorous program. You'll thrive in a supportive and close-knit student community with instructors and staff who create an enriched and unique learning experience.

- » Aerospace Engineering
- » Biomedical Systems Engineering
- » Electrical & Computer Engineering
- » Energy Systems Engineering
- » Engineering Mathematics, Statistics & Finance
- » Engineering Physics
- » Machine Intelligence
- » Robotics Engineering

# HOW TO APPLY Learn more: [uofteng.ca/apply](https://uofteng.ca/apply)

The UofT Engineering admissions committee carefully considers each applicant's academic performance and activities outside the classroom. Once we have received your application through the Ontario Universities' Application Centre (OUAC), we will send you a link to complete a mandatory Online Student Profile (OSP). Your OSP will be used with your academic transcripts and OUAC application to make an admission decision.

1

## APPLY ONLINE

Submit your application online through the **Ontario Universities' Centre (OUAC)** at [ouac.on.ca](https://ouac.on.ca) starting in early October. Shortly after you submit your application, we will send you an email acknowledgement with instructions on how to access your account on the Engineering Applicant Portal. The OUAC application deadline is January 15, 2024. All applicants to UofT Engineering should apply by November 7 on OUAC for early consideration.

2

## SUBMIT YOUR ONLINE STUDENT PROFILE AND DOCUMENTS

Log in to your **Engineering Applicant Portal** to complete your Online Student Profile (OSP) — where you can tell us about yourself, your academic history, extra-curricular involvement and the engineering programs you are interested in. You will also be able to indicate your interest in PEY Co-op. Upload transcripts through the portal for your high school studies to date. Your application will be reviewed once your OSP is complete. For full deadline details, please visit [uofteng.ca/deadlines](https://uofteng.ca/deadlines).

3

## APPLY FOR RESIDENCE

**Residence is guaranteed for all new full-time students entering their first year of university in an undergraduate program for the first time.**

You will need to indicate your interest in residence by completing the **First Year StarRez application** by March 31, 2024, and receive and accept an offer of admission by June 3, 2024. Students must meet all deadlines and all deposit requirements to maintain their eligibility. For full details, please visit [uofteng.ca/housing](https://uofteng.ca/housing).

4

## TRACK THE STATUS OF YOUR APPLICATION

Log in to your **Engineering Applicant Portal** account regularly to see what documents have been received in support of your application and to provide updated grades, transcripts and achievements. This is also where you can ensure that your Online Student Profile is complete and track your admission status. When a decision is made, it will be posted here first. Most admissions decisions are made between February and May.

## ACADEMIC REQUIREMENTS

### CANADA

**ONTARIO:** English (ENG4U); Advanced Functions (MHF4U); Calculus and Vectors (MCV4U); Chemistry (SCH4U); Physics (SPH4U); and an additional U or M course

**ALBERTA/NW TERRITORIES/NUNAVUT:** Math 30-1; Math 31; Chemistry 30; Physics 30; and ELA 30-1

**BRITISH COLUMBIA/YUKON:** Pre-Calculus 12; Calculus 12 or AP Calculus; Chemistry 12; Physics 12; and English Studies 12 or English First Peoples 12

**MANITOBA:** Pre-Calculus Math 40S; AP Calculus 42S or Calculus 42U or Calculus 45S + Advanced Mathematics 45S; Chemistry 40S; Physics 40S; and ELA 40S

**NEW BRUNSWICK:** Calculus 120; Pre-Calculus A120; Pre-Calculus B120; Chemistry 121 or 122; Physics 121 or 122; and English 120, 121 or 122

**NEWFOUNDLAND/LABRADOR:** Math 3200; Math 3208; Chemistry 3202; Physics 3204; and English 3201

**NOVA SCOTIA:** Pre-Calculus 12; Calculus 12 or AP Calculus; Chemistry 12; Physics 12 and English 12 or English 12: African Heritage

**PRINCE EDWARD ISLAND:** Mathematics 621A or 621B; Mathematics 611B; Chemistry 611 or 621; Physics 621; and English 621

**QUEBEC CEGEP:** 12 academic courses including one course in Algebra, and two courses each in Calculus, Chemistry, Physics and English.

**QUEBEC HIGH SCHOOL:** Present requirements according to the provincial curriculum that your school is following. Please refer to the appropriate province for our requirements.

**SASKATCHEWAN:** Pre-Calculus 30; Calculus 30; Chemistry 30; Physics 30; and ELA A30 + B30

Note: Please email [engineering@utoronto.ca](mailto:engineering@utoronto.ca) if your school does not offer Calculus



# FINANCES



Learn more:  
[uofteng.ca/finances](http://uofteng.ca/finances)

The cost of a university education includes tuition, incidental fees, books, supplies and living expenses. To help you plan ahead, use the University's financial planning calculator and explore scholarship opportunities and financial aid programs you may be eligible for.

## Scholarships & Awards

All high school applicants to U of T Engineering are automatically considered for most admission scholarships on the basis of their academic achievement and extracurricular involvement (as detailed in the Online Student Profile). Some scholarships and awards require a separate application. Engineering applicants are also eligible for several University-wide scholarships. Major U of T scholarships requiring nomination include the **National Scholarship** for Canadian high school students and the **Lester B. Pearson International Scholarship** for international students.

## Financial Aid

### UNIVERSITY OF TORONTO ADVANCE PLANNING FOR STUDENTS

We are committed to ensuring that no admitted domestic student<sup>1</sup> is unable to enrol in or complete their studies due to lack of financial means. This commitment led to the creation of a unique financial aid program called **University of Toronto Advance Planning for Students (UTAPS)**. Through a non-repayable grant, UTAPS covers unmet financial need after a student has received a maximum amount of support through government assistance (e.g., OSAP for Ontario students).

### U.S. STUDENT AID

U.S. citizens can apply for financial assistance from the U.S. William D. Ford Federal Direct Loan Program. U of T is a recognized post-secondary institution for Federal Direct Loans (PLUS/Subsidized/Unsubsidized). Education Savings Plans and U.S. Federal Education Tax credits are also applicable. For details, please visit [uofteng.ca/usloans](http://uofteng.ca/usloans).

### SPONSORED STUDENTS

As a top-ranked academic institution, the University of Toronto is an approved destination for most countries' national mobility scholarship programs.

## Costs

2023-2024 tuition, incidental fees for full-time studies and the PEY Co-op program fee are presented below in Canadian dollars; 2024-2025 fees are subject to change. For a list of housing options and costs, visit [uofteng.ca/housing](http://uofteng.ca/housing).

	DOMESTIC	INTERNATIONAL
<b>Tuition</b>	\$14,180 (Ontario residents) \$15,330 (non-Ontario residents)	\$67,370
<b>Incidental Fees</b>	\$1,960.87	\$1,960.87 <sup>2</sup>
<b>Residence &amp; Meal Plan</b>	\$11,800– \$35,203	\$11,800– \$35,203
<b>Books &amp; Supplies</b>	\$1,500– \$2,000+	\$1,500– \$2,000+
<b>PEY Co-op</b>	You can opt into PEY Co-op during the U of T Engineering application process as outlined on page 20. The current total PEY Co-op program fee is \$3,650, payable in six installments over three years starting in your second year. There is no cost to participate in PEY Co-op programming in your first year.	

1. International students are not eligible for need-based financial aid.
2. International students are required to purchase health insurance through UHIP (\$756 for 2023-2024).

## INTERNATIONAL

**AMERICAN SYSTEM:** U.S. High School diploma with at least two years of Physics (AP, Honours or equivalent) and Math including Calculus (AP, Honours or equivalent). Candidates must also present at least one year of Chemistry (AP or Honours); however, preference may be given to candidates presenting two years of Chemistry. For 2024 admission, U of T Engineering is test-optional; however, preference may be given to applicants presenting high test scores on SAT, ACT or AP examinations.

**BRITISH PATTERNED SYSTEM:** Three A-Levels including Mathematics and Physics. Chemistry is strongly recommended as the third A-Level. Applicants are required to present at least AS-Level Chemistry.

**CHINESE SYSTEM:** Senior 3, Hui Kao and Gao Kao in prerequisite subjects of Math, Physics and Chemistry. Applicants not sitting for Gao Kao must provide a written letter and present standardized test results from another education system in lieu of Gao Kao.

**INDIAN SYSTEM:** Mathematics, Chemistry and Physics at the Grade 12 level. Completion of the All India Senior School Certificate awarded by CBSE, or the Indian School Certificate awarded by CISCE, or Year 12 State Board Exams with excellent results.

**INTERNATIONAL BACCALAUREATE (IB) DIPLOMA:** Mathematics Analysis and Approaches HL (recommended) or SL or Mathematics Applications and Interpretations HL; Physics, Chemistry and English at either level.

## ENGLISH LANGUAGE REQUIREMENTS

If your first language is not English, you must present proof of English facility prior to admission consideration, unless you have completed four years of full-time study in an English language school in a country where the predominant language is English. For details on required scores and acceptable tests, please visit [uofteng.ca/elt](http://uofteng.ca/elt).

Note: U of T Engineering does not grant advanced standing for A-Levels, AP or IB courses.



UNIVERSITY OF TORONTO  
FACULTY OF APPLIED SCIENCE & ENGINEERING

DEFY  
GRAVITY

## IT'S EASY TO STAY ON TOP OF WHAT'S HAPPENING AT UofT ENGINEERING

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