



# Western Engineering



## GRADUATE STUDIES

VIEWBOOK

[eng.uwo.ca/graduate](http://eng.uwo.ca/graduate)

# Welcome to Western Engineering

**Here we aim to drive an equitable and sustainable future through innovative education and research programs.**

Our diverse professional and research graduate programs will empower you to personalize your academic journey and engage in multiple learning streams, including co-op, work-integrated project-based and other experiential activities.

We provide students with the knowledge, skills and support to solve problems, turn ideas into products and address the many challenges of our global environment. Our faculty members conduct leading-edge research in topical areas that benefit society. Areas of special expertise include energy and sustainability, biomedical applications, innovative materials and biomaterials, natural disaster mitigation and management, water technologies, micro and nano technologies, cloud computing, data analytics and much more. For those interested in research-based graduate degrees, funding is available for all accepted students.

Additionally, you will not be alone on this journey as our Graduate Office is committed to providing graduate students with the best experience while they study at Western University. We strongly emphasize your career and professional development as an integral part of your academic journey.

Have a look through our viewbook to learn about Western University, Western Engineering and our graduate programs.

Looking forward to connecting.

**Kamran Siddiqui,**  
PhD, PEng, FASME, FCSME

Professor and Associate Dean, Graduate and Postdoctoral Studies, Western Engineering



# Why Western Engineering

We are home to more than 800 graduate students studying in different research-based and professional (course-based) degree programs in a range of fields and interests. Students work collaboratively with professors, fellow students, and other stakeholders to discover and develop innovative solutions in Engineering that impact communities locally and globally.

## Western Engineering is comprised of six academic units:

- Department of Chemical and Biochemical Engineering
- Department of Civil and Environmental Engineering
- Department of Electrical and Computer Engineering
- Department of Mechanical and Materials Engineering
- School of Biomedical Engineering
- Thompson Centre for Engineering Leadership and Innovation

## Unique to Western Engineering are:

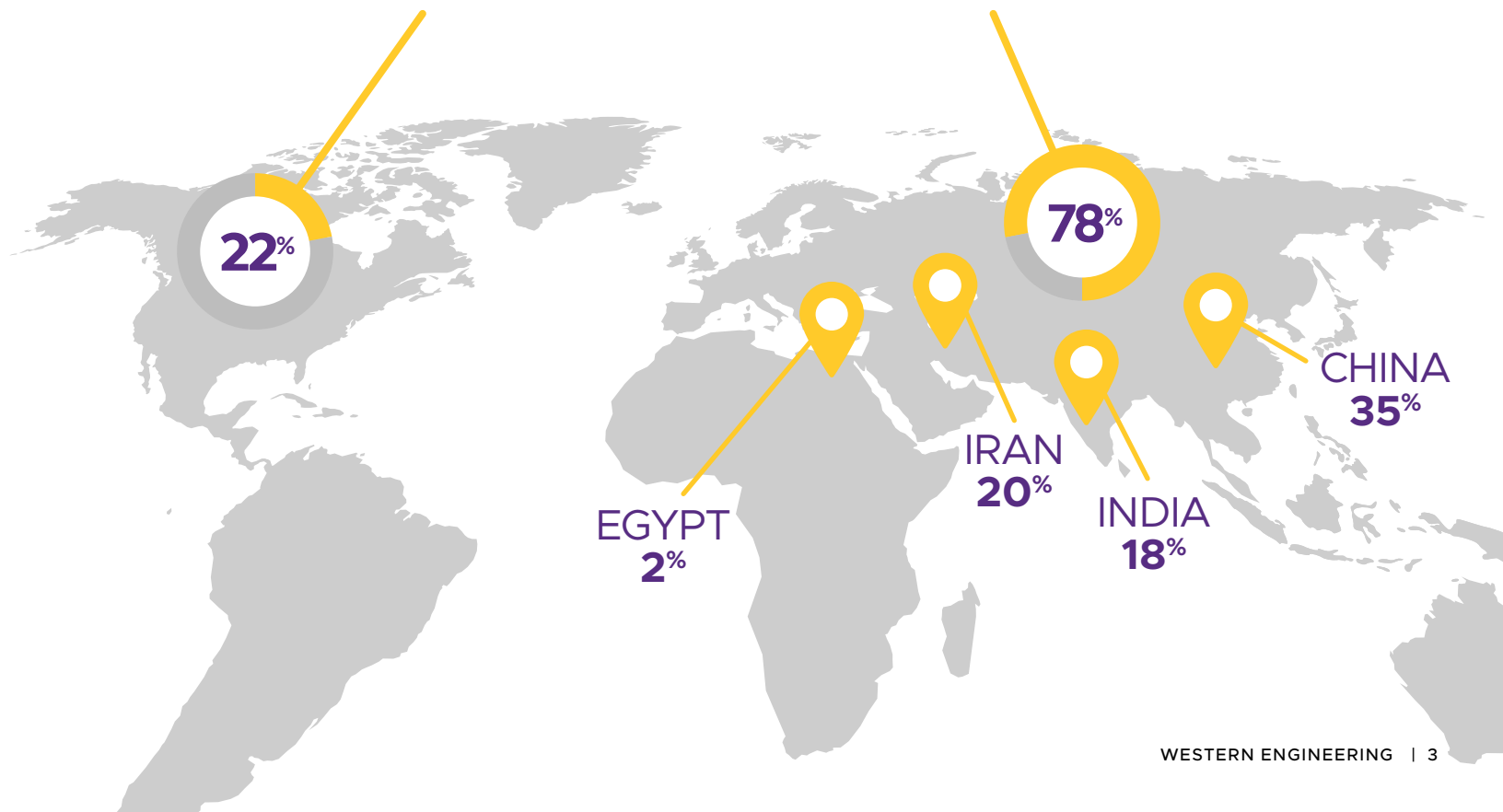
- MEng Co-op opportunities
- Support for both academic and industry pathways
- Graduate Diploma in Engineering Leadership and Innovation
- STEM Certificate
- Co-curricular career and professional development program
- International Research Opportunities
- State of the art research facilities
- Student centered community
- Dedicated career support throughout your entire degree

# 180+

## DOMESTIC STUDENTS

# 650+

## INTERNATIONAL STUDENTS



# Research Focused Graduate Degrees

We offer two thesis-based research programs: **Master of Engineering Science (MEngSc)** and **Doctor of Philosophy (PhD)**. Both of these programs provide opportunities for students to conduct innovative fundamental and/or applied research using state-of-the-art experimental or computational research facilities under the supervision of the faculty member(s).

The Faculty has research strengths in diverse areas addressing present day challenges as well as developing technologies for the future. Some of the broader research areas include **Biomedical Engineering** and advanced technologies in healthcare and medicine; **Energy, sustainability and resiliency**; **Innovative materials and biomaterials**; **Ubiquitous information, artificial intelligence and data analytics**.

## Asha Parekh

BESc'07, MEng'11, PhD'15 Biomedical Engineering

*Why did you come to Western Engineering for your graduate degree?*

I decided to stay at Western Engineering for graduate school because it gave me the opportunity to work on a project that I was passionate about with the required resources available. I found a supervisor that I was aligned with (Dr. Wankei Wan) and we worked together to discuss and design my project. Other universities/supervisors did not all provide that flexibility and/or did not have access to the resources that Western Engineering could provide me.

*How did your studies at Western prepare you for your future career?*

I graduated in 2015, completed a couple of postdoctoral fellowships and then went on to co-found a startup medical device company, Front Line Medical Technologies Inc., where I am the CEO. It has been an incredible journey and I strongly believe that Western Engineering truly laid the foundation for everything I do. From the technical skills to communication and group work, all aspects of engineering have contributed to bring me where I am today and continue to pave the way forward. I am so thankful and proud to be a Western Engineering graduate!



Research students may also have access to various niche research facilities that are either housed within Western Engineering or in other faculties at Western. These include the Institute for Chemicals and Fuels from Alternative Resources (ICFAR), Wind Engineering, Energy and Environment (WindEEE) Research Institute, Institute for Earth and Space Exploration, Fraunhofer Innovation Platform for Composite Research, and Canadian Surgical Technologies and Advanced Robotics (CSTAR), and various others.



## Nicole Devos

MESc Candidate, Electrical and Computer Engineering – Robotics and Control Option

*Why did you come to Western Engineering for your graduate degree?*

One of the main reasons was the multidisciplinary research opportunities. Western has some unique collaborative specialization programs to foster multidisciplinary research. I was very interested in conducting research in planetary science. Being a graduate student in Electrical and Computer Engineering, I got the opportunity to register in the Planetary Science and Exploration Collaborative Specialization Program and conduct my research with the Institute for Earth and Space Exploration.

*What's the best advice you could give to someone considering applying to your graduate program?*

My advice to new students is to be passionate, explore learning opportunities and get involved with the community. Keep a focus on your professional and personal growth, which helps your career growth. Both the University and the Faculty have options for students to customize their learning and graduate life experience. There are so many professional and personal development opportunities in the form of courses, workshops, certificates, and international experiences, offered through the Faculty, the School of Graduate and Postdoctoral Studies, and the Centre for Teaching and Learning.

## Jon Weiler

BESc'02, MESc'05, PhD'09 Mechanical and Materials Engineering

*Why did you come to Western Engineering for your graduate degree?*

I came to Western Engineering for my graduate degree based on my experiences in undergraduate courses I took in materials science and engineering. I found the subject matter very interesting and Western Engineering has a strong graduate research program in materials engineering.

*How did your studies at Western prepare you for your future career?*

The research program at Western nurtured my critical thinking, critical analysis and professional skills, which are transferable skills that are highly valuable in both academic and non-academic careers. Since finishing my PhD at Western, I have joined Meridian Lightweight Technologies where I have been employed over the last 10 years with increasing responsibilities in the Corporate Engineering team.



# Professional Programs – Master of Engineering (MEng)

The Master of Engineering (MEng) is a course-based degree program that is structured to advance knowledge of practical interest in specialized fields. This degree program is well-suited for working professionals and those seeking careers in the industrial sector.

Our MEng program provides opportunities to gain industry-related experience through co-op placements and industry-sponsored projects.

MEng students also have the option to combine their degree with a graduate diploma in Engineering Leadership and Innovation

Western University offers a number of excellent resources to help develop your professional skills while completing a graduate degree at Western.

## MEng Fields of Specialization

### CHEMICAL & BIOCHEMICAL ENGINEERING

- Biomaterials and Biochemical
- Environment and Green
- Food Processing
- Particle Technology and Fluidization
- Process Control and Safety
- Reactions and Process Systems

### CIVIL AND ENVIRONMENTAL ENGINEERING

- Structural and Infrastructure
- Environmental and Water Resources
- Geotechnical and Geoenvironmental
- Wind Engineering and Environmental Fluid Mechanics

### ELECTRICAL AND COMPUTER ENGINEERING

- Communications and Signal Processing
- Power Systems
- Robotics and Control
- Software Engineering

### MECHANICAL AND MATERIALS ENGINEERING

- Automation Technologies and Systems
- Materials and Solid Mechanics
- Thermo-fluids

### COLLABORATIVE SPECIALIZATION

- Engineering in Medicine

## Bekime Uzeiri

MEng'18 Civil and Environmental Engineering – Structural Engineering Option

*Why did you come to Western Engineering for your graduate degree?*

I undertook extensive research of engineering graduate programs when I was applying for graduate studies as an international student. I decided to come to Western Engineering because of its high reputation and niche specialization programs.

*How have your studies at Western prepared you for your future career?*

The MEng program at Western provided a unique learning and graduate life experience to me. The courses were structured to provide interactive learning opportunities. In addition to the advanced technical learning, the program supported the enrichment of professional skills, which were very valuable as I transitioned into my career. I am very happy that I decided to take the MEng program at Western, which enabled me to achieve my career goals.





## Vishwadeep Rao

MEng Candidate - Chemical and Biochemical Engineering - Engineering in Medicine Option

*Why did you come to Western Engineering for your graduate degree?*

Western Engineering is highly reputed and well-known for its academic and research excellence. Some of the other key factors that led me to choose Western Engineering for the MEng program are the condensed program length, the availability of a variety of specialization opportunities and the experiential learning opportunity through the MEng project.

*What is your experience as a Western Engineering graduate student?*

I have an amazing experience as a graduate student here. Instructors are passionate, accessible and experts in the subject matter they teach. The classroom environment is friendly, inclusive and gives a sense of community. The MEng program immensely supported my professional and personal development, matured me as person and led to personal growth and increase in confidence.

# Funding Your Degree



## Financial Support

As one of Canada's leading research institutions, we place great importance on helping you finance your education. While at Western, you will want to devote your full energy to the successful completion of your studies, so we want to ensure that funding is available to you.

## Faculty of Engineering Funding

Western Engineering offers financial support to all eligible research-based (PhD and MEng) graduate students who achieve and maintain a minimum average of 78 per cent at the time of admission and throughout their course of study at Western. The funding package includes tuition fee plus a minimum guaranteed fellowship (see table below). Financial support is provided through research grants, contracts, scholarships, and teaching assistantships.

DEGREE	MINIMUM GUARANTEED FUNDING PACKAGE PER YEAR**
Master of Engineering*	\$ 0
Master of Engineering Science	\$ 13,000 + Tuition
PhD (Pre-comprehensive examination)	\$ 13,000 + Tuition
PhD (Post-comprehensive examination)	\$ 14,000 + Tuition

\* MEng students are not provided financial support

\*\* Two years support for MEng students and four years support for PhD students

## Scholarships

Western Engineering students are very successful in securing national and provincial scholarships including the Vanier Canada Graduate Scholarship, Canada Graduate Scholarship (CGS-D), Doctoral Postgraduate Scholarship (PGS-D), Canada Graduate Scholarship (Masters), and the Ontario Graduate Scholarship (OGS).

## Internal Awards

In addition to external scholarship opportunities, Western Engineering provides scholarships and awards made possible by generous donor funding. These donor awards are available to both research-based students, as well as students registered in our professional programs.

For more information about funding opportunities, please visit: [www.eng.uwo.ca/graduate/funding](http://www.eng.uwo.ca/graduate/funding)

## Graduate Teaching Assistantships

Graduate Teaching Assistants (GTAs) make an important contribution to the quality of undergraduate education at Western University. A GTA acts as a resource and a mentor to students as they grapple with theories and problem-based learning. GTA opportunities in the Faculty of Engineering are available to funding-eligible research-based graduate students in the faculty.

For more information about Graduate Teaching Assistantships, please visit: [grad.uwo.ca/finances/western\\_funding/gta](http://grad.uwo.ca/finances/western_funding/gta)



# Professional Development and Experiential Learning

Western Engineering is committed to providing robust professional development and experiential learning opportunities throughout your degree and offers a variety of excellent resources for you to invest in your personal and professional growth.

## Professional Development Opportunities for Master of Engineering (MEng), course-based students:

The John M. Thompson Centre for Engineering Leadership & Innovation in the Faculty of Engineering offers various courses designed to enhance your professional skills. Designed with the professional engineer in mind, students can select from a wide range of professional courses such as;

- Engineering Business
- Intellectual Property
- Risk Assessment & Management
- Engineering Planning & Project Management
- Engineering Communications
- New Venture Creation
- Engineering Leadership
- Strategic Innovation Commercialization

MEng students can also complete a graduate diploma in Engineering Leadership & Innovation concurrently with their MEng degree. This four-term graduate program enables students to transfer the knowledge they are gaining from their technical courses into applied professional development courses, further developing professional leadership skills in the context of engineering practice, and to enhance their employability.

Western Engineering also offers enriched experiential learning opportunities for MEng students that include the Co-op option and industry-sponsored MEng projects.

For more information on professional development opportunities for MEng students, please visit: [www.eng.uwo.ca/tc/graduate/index.html](http://www.eng.uwo.ca/tc/graduate/index.html)

## Professional Development Opportunities for Research-based students:

Western Engineering offers a vigorous professional development program for research-based students, building the knowledge and skills needed to advance competencies for successful academic and non-academic career paths.

- **Certificate in Curriculum, Teaching and Learning in the STEM Disciplines:** Designed for early-stage educators with a STEM background looking to develop their competencies as educators in Science, Engineering, Technology and Mathematics.
- **Own Your Future:** Designed for doctoral students, Own Your Future is a co-curricular career and professional development program customized for you to advance your soft skills for success in your studies and beyond.
- **Professional Development Courses:** Research-based students have access to professional courses in the Faculty of Engineering, tailored to the niche skillset of research graduate students, such as; Business Acumen, Technology Commercialization, and Project Management.



# Welcome to Western

Western is considered one of Canada's most beautiful campuses, situated along the banks of Thames River in London, Canada, a safe, welcoming community of more than 400,000 people.

Founded in 1878 Western University sits on the traditional territory of the Attawandaran, Anishinaabe, Haudenosaunee and Leni-Lunaape People.

Western University ranks as one of Canada's top research universities and among top 1% of higher education institutions worldwide. From fundamental to applied knowledge, Western University discoveries benefit economic, social, health and cultural development in Canada and around the world.

Western University attracts students with broad worldviews seeking to study, engage, and lead in international communities. Students from across the world study at Western in 11 faculties, and engage in academic and experiential learning activities as well participate in research and volunteer opportunities to broaden perspectives and knowledge. Western students balance academic achievement with opportunities for athletic, volunteer and social engagement, which foster a strong community that extends to more than 328,000 alumni worldwide.

## TOP 1%

RANKING AMONG THE  
HIGHER EDUCATION  
INSTITUTIONS  
WORLDWIDE

## #1

IN CANADA, AND  
3RD IN WORLD IN  
GLOBAL IMPACT,  
SUSTAINABILITY  
RANKINGS

## 41K+

STUDENTS, INCLUDING  
MORE THAN 4,500  
INTERNATIONAL  
STUDENTS FROM  
129 COUNTRIES

## 2<sup>ND</sup>

HIGHEST NUMBER  
OF FACULTY  
MEMBERS RECEIVING  
NATIONAL TEACHING  
FELLOWSHIPS

## 328K+

ALUMNI IN 160  
COUNTRIES  
WORLDWIDE

# London, Ontario



Set in the heart of Southwestern Ontario, London (also known as the Forest City) is the region's economic, entertainment and cultural hub. With a population of more than 400,000, London is Canada's 11th largest city and an ideal environment to work, study and live. Big enough for the 'big city' experience, but still far more affordable in comparison with many other Canadian cities, London boasts an extensive educational and health care community, while providing the safe and clean atmosphere of a small community.

We may be in Canada, but we experience four distinct seasons, ranging from hot, breezy summers to colourful autumns to crisp, snowy winters to refreshing springs. Each brings with it, its own beauty and opportunities to enjoy the outdoors.

## Get to Know The Forest City

- Museum London and The Grand Theatre for a taste of the arts
- Boler Mountain for winter sports and hiking in the summer
- Vibrant nightlife on Richmond Row
- Coffee Shops and cafes to sit and relax in Wortley or Old East Village
- Family friendly venues including Storybook Gardens, the London Regional Children's Museum or the Factory
- A variety of schools, health care facilities, after-school and special needs programs, children's camps and community centres

Discover London: [londontourism.ca](http://londontourism.ca)



## HOW TO APPLY

# Where/When/How

Western Engineering accepts applications to our graduate programs at any time, but admission may only be offered based on the deadlines set by each department. Please make sure you adhere to the posted application deadlines to ensure your application is processed for the desired term of admission.

Visit us online at [eng.uwo.ca/graduate](https://eng.uwo.ca/graduate) for detailed information on how to apply or call us to speak to someone in person.

*Western University sits on the traditional territory of the Attawandaran, Anishinaabe, Houdenosaunee, and Leni-Lunaape Peoples.*

## GRADUATE STUDIES

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Engineering