



University  
of Windsor  
Faculty of Engineering

# Advanced and Professional Studies



[www.uwindsor.ca/engineering](http://www.uwindsor.ca/engineering)



## Advanced and Professional Programs



Welcome to the University of Windsor! Our innovative, professional programs are designed for the modern engineering professional who wants greater training and expertise in an efficient, well-rounded academic program.

### Our goal:

To work with our students to create an environment of learning, opportunity and personal, professional growth. This partnership begins when you apply to one of our professional programs, continues throughout your time here, and goes forward with you upon graduation.

### Our mission:

To train high-quality engineers who solve public problems. I encourage you to visit our website at [www.uwindsor.ca/engineering](http://www.uwindsor.ca/engineering), ask us questions, and talk to people who know us well. We have top-notch faculty members and educational and research programs.

While every effort has been made to ensure this brochure was accurate at the date of printing, the University of Windsor online calendar is the official program document for the university.

### Our programs:

Offer the depth, reflection and insight through knowledge and teaching that can really make a difference by benefitting people in their daily lives. Many of our students pursue careers in government, industry and various universities across North America.

Like those students, I hope you, also, will find the expertise, tools, connections and credentials at the University of Windsor to help launch your aspirations and the next stage of your professional life.



Majid Ahmadi, PhD, C.Eng, FIEEE  
Associate Dean, Research and Graduate Studies

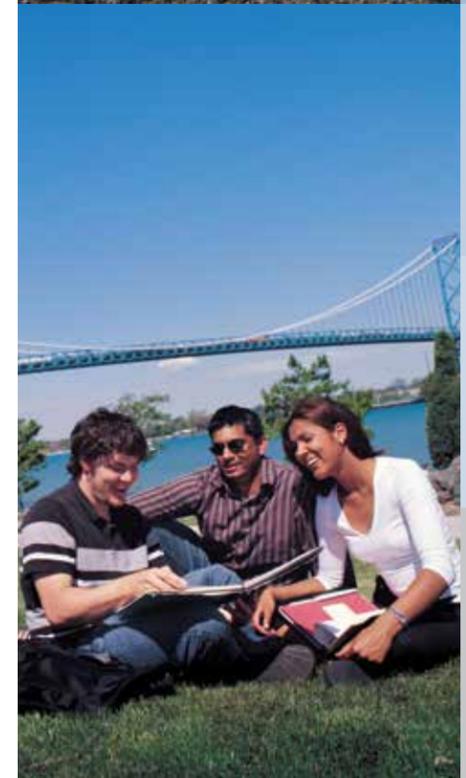
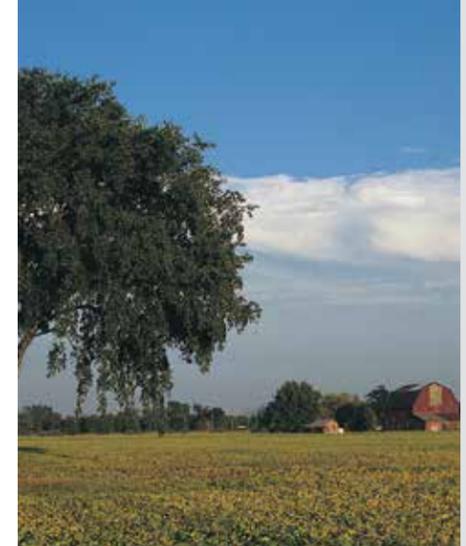
## Windsor, Canada

The University of Windsor is located on the Canada – US border, 15 minutes from the start of Highway 401 or Michigan’s I-75, and adjacent to one of Canada’s most beautiful waterfronts on the Detroit River.

Windsor is a city of **industries and varied culture**. Surrounded by water and rich agricultural land and serviced by one of the busiest transportation corridors in the world between Canada and the U.S., the city has long been known as a centre for manufacturing technology excellence or the international automotive industry.

This diversity is reflected at the University of Windsor, which boasts **one of the highest international student populations in Canada**. Our university is internationally oriented, multi-disciplined, and comprehensive. Many of the educational opportunities available at much larger universities are offered at UWindsor!

The city is known for its **friendliness and willingness** to help those in need, and like the city, our University is small enough to offer you direct, personal attention, and yet large enough to offer high-quality, professional educational and research opportunities.



## Advanced Degrees

We offer several graduate engineering degrees to suit your needs at the University of Windsor.

The **Master of Engineering (MEng)** is designed for working professionals or recent graduates who want to increase their knowledge in multiple, advanced topics. MEng students will be required to complete a minimum of eight courses.

An MEng student may choose to apply to participate in the co-op program, which includes a semester of co-op work experience as part of their program. For more information, please visit the co-op website at: [www.uwindsor.ca/cce](http://www.uwindsor.ca/cce)

For more information on the MEng Program, please contact us at [mengprog@uwindsor.ca](mailto:mengprog@uwindsor.ca)

The **Honour Certificate Program (HCP)** provides a pathway to further career advancement by offering courses and a recognized route to upgrading previous academic attainments to the high levels required for entry into graduate programs. For more information on the HCP program, please visit [www.uwindsor.ca/engineering/HCP](http://www.uwindsor.ca/engineering/HCP)

The **Master of Engineering Management (MEM)** is Ontario's only weekend engineering management degree. The two-year program allows working professionals to earn their master's degree without interrupting their career. Offered by the Faculty of Engineering in partnership with the Odette School of Business, the MEM prepares engineers for management roles. For more information on the MEM program, please visit [www.uwindsor.ca/mem](http://www.uwindsor.ca/mem)

The **Master of Applied Science in Engineering (MASc)** appeals to individuals who want to expand their knowledge in specific fields, as well as develop their research and analytical abilities. MASc students will typically attend a minimum of four courses, and undertake a supervised thesis lasting approximately 12 months that researches an advanced engineering topic. MEng students who have completed their MEng Program requirements can apply to our fast-track MASc program, which provides them with additional research-specific training and education.

The **Doctor of Philosophy (PhD)** is intended for individuals who have completed a MASc in Engineering and plan to work in a research, academic, or industry/management intensive environment that demands the advanced research, analytical, and reasoning skills that come with a PhD degree. PhD students will typically attend a minimum of four courses, and undertake a supervised thesis for 24 to 36 months that researches an advanced engineering topic.

For more information on the MASc or PhD Program, please contact the appropriate engineering office.

- Civil & Environmental Engineering  
[ceeng@uwindsor.ca](mailto:ceeng@uwindsor.ca)
- Electrical & Computer Engineering  
[gradece@uwindsor.ca](mailto:gradece@uwindsor.ca)
- Industrial and Manufacturing Systems Engineering  
[imsegradstudies@uwindsor.ca](mailto:imsegradstudies@uwindsor.ca)
- Mechanical Engineering  
[mec@uwindsor.ca](mailto:mec@uwindsor.ca)
- Materials Engineering  
[mats@uwindsor.ca](mailto:mats@uwindsor.ca)





## MEng Degree at UWindor

The Faculty of Engineering offers the following Master of Engineering Programs on a full-time basis:

- Environmental Engineering
- Civil Engineering
- Industrial Engineering
- Electrical and Computer Engineering
- Mechanical Engineering
- Engineering Materials

### Program Goals

The MEng Degree Program provides students the opportunity to extend their understanding of engineering principles in specific disciplines beyond the coverage possible in an undergraduate program, and to enhance their grasp of the applications of these principles to solve complex problems.

For more information on the MEng Degree, please contact us at [mengprog@uwindsor.ca](mailto:mengprog@uwindsor.ca)

### Application Procedure

Students may enroll in the program to begin studies in September, January, or May. The minimum average required for entering our Master's program is a B grade.

International students need to apply at least 90 days prior to the start of their program. Application deadlines are listed online: [www.uwindsor.ca/mengprog](http://www.uwindsor.ca/mengprog).

Please include the following documents when you apply:

- Completed online application form and \$105 application fee
- Two official transcripts for all past undergraduate and graduate degrees
- Two completed, confidential referee forms
- International students whose last degree was from a non-English speaking country should pass TOEFL, MELAB, CAEL or IELTS.

## Honours Certificate Programs at UWindor

The Faculty of Engineering offers the following certificate programs:

- Honours Certificate in Civil Engineering
- Honours Certificate in Electrical Engineering
- Honours Certificate in Environmental Engineering
- Honours Certificate in Industrial and Management Engineering

### Program Goals

The University of Windsor's one-year certificate programs are designed to help you upgrade your skills and knowledge, or start an entirely new career path altogether. Enhance your opportunities for further education or employment by receiving an honours certificate (HCP) in civil, electrical, environmental or industrial and management engineering.

### Pathway to the Master of Engineering

The Honours Certificate Programs provide a pathway to further career advancement by offering courses and a recognized route to upgrading previous academic attainments to the high levels required for entry into all Master of Engineering programs at the University of Windsor, excluding mechanical and automotive.

### Application Procedure

Applying as an undergraduate at the University of Windsor and all universities in Ontario is processed through the Ontario Universities' Application Centre (OUAC). To apply, please visit the OUAC website at [www.ouac.on.ca](http://www.ouac.on.ca).

For more information, please visit [uwindsor.ca/engineering/HCP](http://uwindsor.ca/engineering/HCP)





## Master of Engineering Management at UWindsor

In partnership with the Odette School of Business, the Faculty of Engineering offers Ontario's only weekend engineering management degree. MEM is offered as a two-year, weekend program designed to accommodate the busy schedules of working professionals. Participants must complete eight courses plus an engineering management capstone project linked to one of the following specialization areas:

- Manufacturing Strategy
- Operations Management
- Project Management
- Entrepreneurship and Innovation
- Supply Chain Management

### Program Goals

Graduates are ready to occupy leadership roles in multinational engineering and technical enterprises and contribute to manufacturing strategies, corporate innovation and operations management. Coursework also includes planning and executing technology commercialization and go-to-market strategies to foster an entrepreneurial spirit among MEM graduates.

For more information on the MEM program, please contact [mem@uwindsor.ca](mailto:mem@uwindsor.ca).

### Application Procedure

Students may enrol in the program to begin studies in September. The minimum average required for entering the MEM program is a B grade. Students with substantial work experience may be admitted with a lower GPA on a probationary basis. Application deadlines are listed on the website [www.uwindsor.ca/mem](http://www.uwindsor.ca/mem). Please include the following documents when you apply:

- Statement of interest
- Two confidential reference letters
- CV/resumé
- Non-native English speakers must demonstrate English proficiency with IELTS: 7.0 / iBT TOEFL: 100 scores



## Civil & Environmental Engineering at UWindsor

### Graduate Degrees

Our graduate programs are designed to prepare students for successful and rewarding professional careers in civil or environmental engineering. Graduates will find themselves meeting the challenges of efficient building design, improving the design of water and wastewater treatment facilities, traffic congestion, energy needs and urban redevelopment. As a civil and environmental engineering graduate, you will be able to directly impact the health and wellbeing of the general public in many Canadian communities.

### Examples of Courses Offered

**Civil Engineering:** Structural Analysis and Dynamics; Vibration and Control; Prestressed Concrete; Hydraulics and Hydrology; Ground Water Contamination; Soil Mechanics; Traffic Operation & Control.

**Environmental Engineering:** Industrial Wastewater Treatment; Water Pollution Control; Air Quality Measurement; Waste Management and Recycling; Anaerobic and Aerobic Biological Processes; Air Emissions from Combustion and Mobile Sources; Sustainability in Engineering Practices; Renewable Energy; Environmental Biotechnology.

### Contact us for more information

Civil and Environmental Engineering,  
Graduate Secretary, [ceeng@uwindsor.ca](mailto:ceeng@uwindsor.ca)





## Electrical and Computer Engineering at UWindsor

### Graduate Degrees

Our world changes fast, and the only way to keep up is to think faster! If you're looking to expand your knowledge, learn new engineering and research skills, and increase your professional value, consider pursuing a Master's or Doctoral degree in electrical and computer engineering. Our graduates acquire advanced knowledge and critical research skills, and many are employed by industry, consultancies, governments, and research institutions.

### Examples of Courses Offered

**Electrical Engineering:** Microelectromechanical Systems (MEMS); Digital Signal Processing; Automotive Electronics and Sensor Systems; Nonlinear Systems; Power Distribution and Generation; Microelectronics and VLSI; Embedded Systems; RF Integrated Circuit Design.

**Computer Engineering:** Physical Design & Automation for VLSI & FPGAs; Computer Networks; VLSI Design; Reconfigurable Computing; Coding and Encryptions; Network Security; Neural Networks; Computational Arithmetic; Analog & Mixed Signals Integrated Circuit Design; Computational Intelligence; Control Systems; 2-D Signal Processing; Image Processing; Adaptive Signal Processing; Wireless Communication.

### Contact us for more information

Electrical and Computer Engineering, Graduate Secretary,  
[gradece@uwindsor.ca](mailto:gradece@uwindsor.ca)



## Industrial Engineering at UWindsor

### Graduate Degrees

Our programs are designed to meet the clear and growing need for highly qualified personnel to address important systems issues in manufacturing. Our Master's and multi-disciplinary PhD programs, prepare professionals to assume key teaching, research or leadership roles in industrial research and development, industry and academia. Graduates will gain the required education and skills in an environment that fosters excellence in research, as well as an awareness of the many challenges of modern industrial and modern manufacturing systems.

### Examples of Courses Offered

Intelligent Systems; Optimization; Product Design and Prototyping; Manufacturing Systems Simulation; Industrial Automation and Controls; Production & Inventory Control Systems; Life-Cycle Engineering; Advances in Industrial Ergonomics; Supply Chain Management; Computer-Integrated Manufacturing; Cognitive Ergonomics; Manufacturing Systems Paradigms; Design Theory; Sustainable Manufacturing; Methodology and Rapid Manufacturing; Industrial Control & Robotics; Performance Optimization; Product Innovation & Design Management; Reliability and Quality Engineering Complexity Modeling; Product Data Management.

### Contact us for more information

Mechanical, Automotive and Materials Engineering, Graduate Secretary,  
[imsegradstudies@uwindsor.ca](mailto:imsegradstudies@uwindsor.ca)





## Mechanical, Automotive & Materials Engineering at UWindsor

### Graduate Degrees

Mechanical engineers are responsible for the design, analysis, construction, maintenance, and operation of machines and systems in a number of industry sectors, such as automotive, aerospace, power generation, manufacturing, steel, and pulp and paper. Mechanical engineers commonly go beyond the limits of purely mechanical work, and are found at all levels of management in private industry and the public sector. Our graduates acquire advanced knowledge and critical research skills, and many are employed by industry, consultancies, governments, and research institutions.

### Examples of Courses Offered

Internal Combustion Engines; Alternative Fuels and Engines; Diesel Emission Control; Life Cycle Analysis; Hydro forming, Sheet Metal Forming; Vehicle Thermal Management; Vehicle Dynamics; Finite Element Analysis; Experimental and Computational Fluid Mechanics; Turbulent Reaction Flows; Tribology, Wear of Materials; Product Design & Development; Thermal Spray Coatings; Combustion Engineering; Environmental Noise and Vibration Assessment; Automotive Control Systems; Crashworthiness, Impact Testing; Numerical Heat Transfer – Fluid Flow; Machine Design; Energy Conversion, Underwater Vehicles.

### Contact us for more information

Mechanical Engineering, Graduate Secretary, [mech@uwindsor.ca](mailto:mech@uwindsor.ca)

Material Engineering, Graduate Secretary, [mats@uwindsor.ca](mailto:mats@uwindsor.ca)

## Fast Facts

Engineering at the University of Windsor:

- Has three major engineering departments: civil and environmental engineering; mechanical, automotive, and materials engineering; and electrical and computing engineering
- Offers both undergraduate and graduate degrees in all its engineering disciplines
- Is fully Engineers Canada accredited in all its undergraduate programs and is fully accredited by IQAB for its Master's and Doctoral programs.
- Home to more than 1,500 undergraduate students and 650 graduate students
- The Ed Lumly Centre for Engineering Innovation opened its doors in September 2012. It hosts high-tech classrooms, meeting rooms, expanded laboratory facilities and the latest technological tools. Check it out at [www.uwindsor.ca/CEI](http://www.uwindsor.ca/CEI)
- Competes regularly in numerous engineering competitions, such as the SAE Formula and Baja races, the Concrete Canoe, the Big Beam Competition, and other local, regional, national, and international forums
- Has an extremely active Engineers Without Borders (EWB) Chapter
- Benefits from close industrial partnerships and is part of the world-class, \$600-million dollar facility, the Automotive Research and Development Centre (ARDC)
- Has a dedicated International Students' Centre

## Financial Matters

Program costs can be found at [www.uwindsor.ca/GradTuition](http://www.uwindsor.ca/GradTuition).

For more information, visit the cashiers website at [www.uwindsor.ca/cashiers](http://www.uwindsor.ca/cashiers)

### How to Apply

To apply to our MEng program, visit [www.uwindsor.ca/mengprog](http://www.uwindsor.ca/mengprog).

To apply to our MEM program, visit [www.uwindsor.ca/mem](http://www.uwindsor.ca/mem).

To apply to our MASc and PhD programs, contact the individual departments in which you are interested.

- Civil & Environmental Engineering [ceeng@uwindsor.ca](mailto:ceeng@uwindsor.ca)
- Electrical & Computer Engineering [gradece@uwindsor.ca](mailto:gradece@uwindsor.ca)
- Industrial Engineering [imsegradstudies@uwindsor.ca](mailto:imsegradstudies@uwindsor.ca)
- Mechanical Engineering [mech@uwindsor.ca](mailto:mech@uwindsor.ca)
- Materials Engineering [mats@uwindsor.ca](mailto:mats@uwindsor.ca)

We encourage you to apply early if you are considering studying engineering at our university as some programs may have limited space due to their popularity.





## University of Windsor Faculty of Engineering, Advanced and Professional Studies

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