

## **Graduate Studies**





# Department of Electrical and Computer Engineering

Doctor of Philosophy (PhD) Master of Applied Science (MASc) Master of Engineering (MEng)

The Electrical and Computer
Engineering graduate programs
create and maintain excellence in
areas at the forefront of research
and innovation. Our objective is
to attract the best students and
to educate them in the rigors of
scientific research. We provide a
scholarly and dynamic environment
with attention to scientific
discipline, detail and accuracy.

## **Our Programs**

#### Doctor of Philosophy (PhD)

An applicant for admission to graduate studies leading to the PhD degree in Electrical engineering must normally be a graduate of a recognized university with a master's degree in applied science (MASc) or the equivalent. Applicants with degrees in related fields will be considered but will normally require strengthening of their background in electrical engineering.

#### Master of Applied Science (MASc)

The MASc is a research-based program in which you complete four graduate level courses and a thesis. You will need an advisor and will conduct research under your advisor's supervision. Students working under a professor's supervision may be paid. This program is designed to be completed in two years. Scholarships and graduate assistantships are available by application. Continuation of your education is possible with this degree.

#### Master of Engineering (MEng)

The MEng is a course-based program in which you can complete eight graduate level courses in one year or five terms, including five from your area of specialization plus one more engineering course (from any department), and no more than two non-engineering courses. Alternatively, you may choose to complete all eight courses within your area of specialization. No funding or scholarships are available. This is considered a terminal degree and no supervisor is required. For additional information, please visit: www.uwindsor.ca/mengprog

### Research

#### **Electronics Group (EG)**

The Electronics Group research projects cover the areas of integrated circuit technology; nanoelectronics/nanotechnology; integrated circuit/semiconductor device design; VLSI computer-aided design; analog and digital circuit design; circuit theory; filter design; electronic instrumentation; and microelectromechanical systems (MEMS).

#### Communications and Signal Processing Group (CSP)

Communications: the research areas under communications include: digital communications; wireless communications; co-operative and cognitive networks; multiple-input multipleoutput (MIMO) systems; space-time communications; coding and information theory; and communication security.

Signal processing: this covers areas such as: adaptive filtering, detection and estimation theory; digital signal processing; multi-media systems; image processing and analysis; pattern recognition; knowledge-based signal processing; neural networks; and statistical signal processing.

#### Controls and Power Group (CPG)

Controls: the expertise in the controls area covers a wide range of topics, including: linear control and nonlinear control; robotics; networked and distributed control; adaptive control; robust and optimal control; autonomous systems; and discrete event systems.

Power: major research areas within the power group include: electrical machines; power electronic converters and controls; battery management and charging systems; electric drive test systems; electric vehicles; grid integration of renewables and energy storage systems; and power systems.

#### Computer Engineering Group (CEG)

The Computer Engineering Group research projects cover wide range of computer software and hardware such as: computer architecture and hardware; computer-aided design (CAD) and field-programmable gate-arrays (FPGAs); computer vision; operating systems; computer security; computer arithmetic; and cryptosystem design.

## Faculty and Research Focus

- Majid Ahmadi (EG, CSP, CEG)
- Chunhong Chen (EG)
- Xiang Chen (CSP, CPG)
- Sazzadur Chowdhury (EG)
- Shervin Erfani (CEG, CSP)
- Narayan Kar (CPG)
- Mohammed Khalid (CEG)
- Peter Kwan (CSP)

- Mitra Mirhassani (EG)
- Roberto Musecedere (EG. CEG)
- Esam Abdel-Raheem (EG. CSP)
- Mehrdad Saif (CPG)
- Behnam Shahrrava (CSP)
- Kemal Tepe (CSP)
- Huapeng Wu (CSP, CEG)
- Jonathan Wu (CSP, CEG)

## **Admission Requirements**

For the MASc program, students require a minimum B- GPA For the PhD program, students require a minimum A- GPA

#### **Required Documents:**

Two (2) official transcripts

Two (2) references in sealed envelopes

One (1) statement of interest or plan of study

One (1) application

One (1) English language test score

• IELTS: 6.5

• TOEFL (Internet based): 92

• CAEL: 70 • MELAB: 84

Documents should be mailed to:

University of Windsor

Office of the Registrar - Graduate Studies Division

401 Sunset Ave.

Windsor, Ontario N9B 3P4

#### Admission Deadlines

ADMIT TERM	PROGRAMS	M.ENG		SCHOLARSHIPS
	MASc and PhD	Intl*	Dom**	MASc and PhD Only
Fall	July 1	May 1	June 1	May 1
Winter	Nov. 1	Aug. 1	Oct. 1	Sept. 1
Summer	March 1	Jan. 1	Feb. 1	Jan. 1

<sup>\*</sup> International students \*\* Domestic students

## Important Links

Faculty members areas of research:

www.uwindsor.ca/electrical/system/files/ FacultyResearchAreas.pdf

Application information:

www.uwindsor.ca/registrar/graduate-admissions-0

Tuition fees: www.uwindsor.ca/cashiers

#### Contact Information

#### MASc/PhD

Graduate Co-ordinator or Graduate Secretary (519) 253-3000 ext. 3429 gradece@uwindsor.ca

Secretary to Associate Dean, Graduate Studies and Research (519) 253-3000 ext. 2693

mengprog@uwindsor.ca

