

Welcome Reception/Orientation for MEng Students



**Department of Electrical and Computer
Engineering
University of Waterloo**

September 5, 2014

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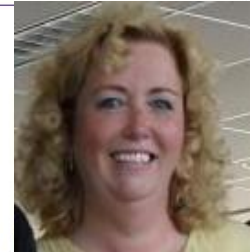
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CANADIAN HOLIDAY DATES

Holidays	Fall 2014	Winter 2015	Spring 2015
	September 1 (M)		
Thanksgiving	October 13 (M)		
Christmas Holidays)	December 24 to December 31		
New Years Day		January 1 (Th)	
Family Day		February 16 (M)	
Good Friday		April 3 (F)	
Victoria Day			May 18 (M)
Canada Day			July 1 (W)
Civic Holiday			August 3 (M)

ACADEMIC TERM DEADLINES 2014 - 2015

Terms and Deadlines	Fall 2014 Sept. 1 – Dec. 31	Winter 2015 Jan. 1 - April 30
Graduate Open Class Enrolment Begins	July 28 (M)	November 23, 2014 (U)
Lectures Begin	September 8 (M)	January 5 (M)
100% Tuition Refund Deadline	September 26 (F)	January 23 (F)
Registration/Enrolment Closes - Last day for students to pay fees/enrol or change status	November 1 (S)	February 1 (U)
Graduate Open Class Enrolment Ends	October 20 (M)	February 13 (F)
50% Tuition Refund Deadline	October 24 (F)	February 20 (F)
Government Reporting Date	November 1 (S)	February 1 (U)
Electronic Grade Submission Dates/Grades Deadlines	December 2 - January 5, 2015 (T-M)	April 7 - May 4 (T-M)
Lectures End	December 1 (M)	April 6 (M)
Examinations Begin	December 4 (Th)	April 10 (F)
Examinations End	December 19 (F)	April 25 (S)
Program Completion Deadline for Convocation (see below)	Spring Convocation April 30, 2015 (Th)	Spring Convocation April 30, 2015 (Th)
Grades available on Quest	January 1, 2015 (Th)	May 1 (F)

Important Information for New Students

Quest Contact Information

- Students should only use their uwaterloo email address for any matters related to their studies. We strongly urge that you *not* forward your uwaterloo emails to another account such as 'hotmail.com' as there is no guarantee that you will actually get them. Students have missed out on important information in the past by doing this.
- Ensure that your Quest account address and UW e-mail information is correct. This will ensure that you will be added to the "MEng" mailing list.

ECE Safety Manual

- All new students must read through the ECE Safety manual, sign the acknowledgement form (last page), get the MEng Supervisor (Prof. John Thistle) to sign it and return it to the MEng Coordinator in EIT 3157.

Important Information for New Students

The **Graduate Academic Integrity Module (Graduate AIM ACINTY)** All incoming UW graduate students are required to read the module, complete the online quiz and receive a grade of at least 75%. **This must be successfully completed by November 1, 2014.**

For more information, visit the Graduate Academic Integrity Module page on the Office of Academic Integrity's website.

GRADUATE ENROLLMENT IN ECE

- Current enrolment of grad students in the ECE department is 560:
 - 258 are PhD
 - 151 are MASc
 - 149 are MEng**
- MEng students make up roughly 26% of the total number of graduate students in the department.
- The ECE graduate program at Waterloo is one of the largest in North America.

WHAT IS THE MENG PROGRAM?

- The program offers a recognized graduate degree in *Electrical and Computer Engineering*.
- The program is entirely course-based. No research component is involved.
- Masters degree can remain general or you may earn additional Certificate(s) in specific areas of interest:
 - Computer Network and Security
 - Software Engineering
 - Sustainable Energy
 - Management Science (*in collaboration with Management Sciences department*)

COURSE EXPECTATIONS

- MEng students take the same courses as MASc and PhD students;
- Each course is 36 hours of in-class lecture and is worth 0.5 credit;
- Most courses include projects;
- Course evaluation also includes a written, supervised final exam which is worth at least 50% of your final grade.

PROGRAM STRUCTURE

- A minimum of 5 out of the 8 courses must be taken from the ECE department.
- A maximum of 3 out of the 8 courses may be taken from the Faculties of Engineering, Mathematics and Science.
- One year Master's degree is possible!
- UW offers a continuous cycle of academic terms and thus it is possible to complete MEng in one year (3 academic terms) as a full-time student.
- Neither audited nor undergrad-level courses can be counted towards the degree requirements.

DEPARTMENT GRADUATE CERTIFICATES

Each Certificate has a specific course plan with compulsory and elective courses.....



Certificate in Computer Networking & Security

Fundamental, advanced, practical aspects of computer networks, security and distributed systems; local and wide-area networks (both wired and wireless).

Compulsory courses:

ECE 610: Broadband Communication Networks

ECE 628: Computer Network Security

ECE 655: Protocols, Software, Issues in Mobile Systems

Elective courses (choose any 2 from the list):

ECE 653: Software Testing, Quality Assurance and Maintenance

ECE 606: Algorithm Design and Analysis

ECE 651: Foundations of Software Engineering

ECE 654: Software Reliability Engineering

ECE 656: Database Systems

ECE 657: Tools of Intelligent Systems Design

ECE 658: Component Based Software Systems (CBSS)

Certificate in Software Engineering

Concepts, techniques and methods of software development; design, testing, modelling and computational intelligence; as well as component-based software engineering.

Compulsory courses:

ECE 650 Methods and Tools for Software Engineering

ECE 651: Foundations of Software Engineering

ECE 653: Software Testing, Quality Assurance and Maintenance

Elective courses (choose any 2 from the list):

ECE 606: Algorithm Design and Analysis

ECE 610: Broadband Communication Networks

ECE 628: Computer Network Security

ECE 654: Software Reliability Engineering

ECE 655: Protocols, Software, Issues in Mobile Systems

ECE 656: Database Systems

ECE 657: Tools of Intelligent Systems Design

ECE 658: Component Based Software

Certificate in Sustainable Energy

Sustainable energy sources; theory of operation and analysis of wind turbines, fuel cells and photovoltaic systems; interfacing of energy sources with electric grid.

Compulsory courses:

ECE 663: Energy Processing

ECE 668: Distribution Systems Engineering

Elective courses (choose any 3 from the list):

ECE 632: Photovoltaic Energy Conversion

ECE 661: HVDC and FACTS

ECE 662: Power System Analysis and Control

ECE 664: Power System Components and Modelling

ECE 665: High Voltage Engineering Applications

ECE 666: Power System Operation

ECE 667: Sustainable Distributed Power Generation

ECE 669: Dielectric Materials

ECE 768: Power System Quality

Certificate in Management Sciences

Augment technical expertise with a broad perspective on technology management, concepts production and inventory management; economic concepts in management, organizational behaviour and senior management principles.

Compulsory course:

ECE 602: Introduction to Optimization

Elective courses (choose any 3 from the list):

MSci 602: Strategic Management Technology

MSci 605: Organizational Theory & Behaviour

MSci 607: Applied Economics for Management

MSci 632: Discrete Event Simulation

MSci 633: Production and Inventory Management

MSci 638: Information Systems Analysis and Design

MSci 646: Database Management Systems

MSci 712: Decision Analysis Under Uncertainty

MEng vs. MASc

MASc	MEng
<ul style="list-style-type: none">• Mandatory research component (seminar and thesis completion);	<ul style="list-style-type: none">• Professional degree---no research or thesis component;
<ul style="list-style-type: none">• Individual supervision (academic supervisors required);	<ul style="list-style-type: none">• No individual supervision;
<ul style="list-style-type: none">• Completion of 5 graduate courses;	<ul style="list-style-type: none">• Completion of 8 graduate courses;
<ul style="list-style-type: none">• Extendable to PhD	<ul style="list-style-type: none">• Not extendable to PhD

Academic Regulations

- The minimum passing grade for MEng courses is 65%.
- **Failed courses cannot be repeated.** MEng students are allowed to fail a maximum of 2 courses.
- MEng students must maintain a grade point average (GPA) of no less than 70%.
- Failure to meet the above requirements may result in academic withdrawal from the program.

More Academic Regulations

- No permissions are required to register in 600 level courses as well as in 700 level courses related to the graduate certificates;
- Undergraduate courses are not recognized towards the degree requirements;
- Courses taken as 'audit' or 'extra' cannot be counted towards your degree or any of the graduate certificates;
- MEng students are advised against registering in an OVGS course if it is the final course required to meet the degree requirements;
- OVGS (Ontario Visiting Graduate Student) course registrations will not be approved beyond the second week of each term and cannot be taken during your last term.

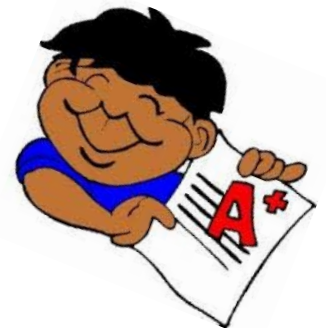
Academic regulations

Typical questions:

- ❖ *Why are the academic regulations so strict?*
- ❖ *Why is there a cap on the maximum number of courses MEng students can take each term?*
- ❖ *Is the required average of 70% inappropriately high?*

The only answer:

- ❖ *The department strives to maximize the academic excellence of its MEng program. The academic regulations are necessary to meet this goal.*



Additional academic control measures under consideration

- To put on conditional enrolment the students whose average have stayed below the required 70% for two consecutive terms.
- To put on conditional enrolment the students who have failed 2 graduate courses.
- The conditions may vary on a case-by-case basis (depending on the overall standing, personal circumstances, etc.)

Full-time vs. part-time studies

Full-time students

- No more than 3 courses per term (including audits);
- Must be registered for at least 3 terms;
- Must graduate within 6 terms;
- May be inactive for a maximum of 2 consecutive terms if you are a Canadian Citizen or Permanent Resident. Students on a Study Permit may only be inactive for 4 months (1 term) out of any 12 month period for work experience.

Part-time students

- Are generally enrolled in 1 course per term. May enroll in a maximum of 2 courses per term (including audits with permission);
- Should be registered for at least 6 terms;
- Must graduate within 15 terms;
- May be inactive for a maximum of 2 consecutive terms.

Common questions and issues

- Internships and scholarships are not available in the MEng program. The only scholarship available to MEng students is the OGS (Ontario Graduate Scholarship). Students can refer to the OGS website for complete details regarding the **application process** and eligibility criteria.
- TA and RA positions are reserved for graduate students in a research-based program (MASc or PhD).
- Switching between full-time and part-time or to another program (such as MAsC) is allowed only once over the program duration.

Common Questions and issues (continued)

- Course Drop/Add deadlines are strictly enforced. These can be done through your Quest account for the first 6 weeks of class. After that, it will only be approved under special circumstances and will require documentation (such as a doctors note). You cannot drop or change a credit course to 'Audit' or 'Xtra' once final exams have begun.
- If you are a part-time student and you drop the only course you are enrolled in for the term, you must also go "inactive" for the term by filling out a Change of Enrollment form. This cannot be done after Government Count date.
- Registration deadlines are strictly enforced.
- Forms you may need such as Drop & Add, Enrollment Change, OVGS or a Program Change form, can be found on the Graduate Studies website.

Common questions and issues (continued)

How can I switch to the MASc Program?

- You need a faculty member to agree to be your MASc research supervisor;
- The supervisor has to provide funding in case of FT students otherwise, transfers are not possible;
- MEng students cannot transfer to a PhD Program.
- You may change programs once during your studies. You cannot go from MEng to MASc back to MEng again, so make sure this is what you want to do.

What happens if I fail a course?

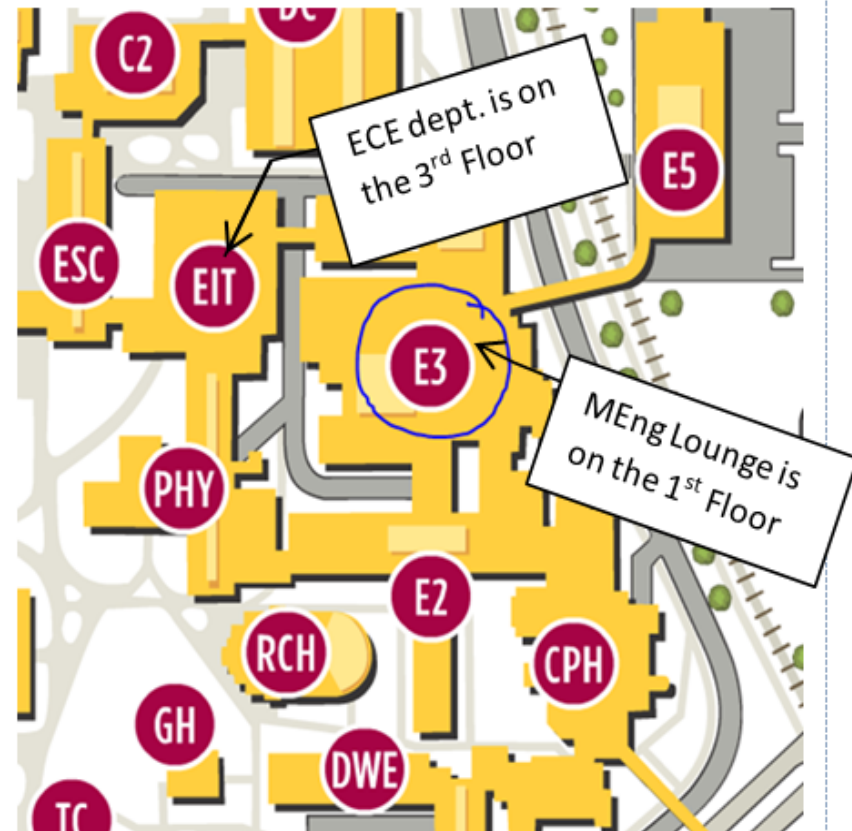
- Failed courses are not counted for credit and you cannot repeat a failed course. You will need to take another course to meet the 8 course requirement;
- Marks obtained in a failed course will still count in your GPA;
- If you fail a course that is compulsory for a graduate certificate, you will not qualify for that certificate.

MASTER OF ENGINEERING STUDY ROOM

The new Study Room for Master of Engineering graduate students in ECE is located in the E3 building now. The room consists of study areas with computers, couch and chairs as well as a meeting room and a small kitchen. It is the responsibility of each student to clean their own dishes and to help keep this space neat and tidy.

E3 Room 1101

Code for entering: 591466



Study Area



A kitchen area with white cabinets, a microwave, a sink, and a refrigerator, set against a grey cinder block wall. The kitchen features a dark countertop and a stainless steel sink with a chrome faucet. A microwave is mounted in a white cabinet above the counter. A refrigerator is positioned to the left of the counter. The walls are made of grey cinder blocks, and the floor is covered in a speckled linoleum. Two long fluorescent light fixtures are mounted on the ceiling. A small vent is visible on the wall to the left, and a roll of paper is on a shelf to the right.

The Kitchen