Graduate Program in Electrical Engineering and Computer Science

Simone Pisana   Fall 2018

Welcome to EECS

- York is the 4th largest grad school in Ontario (6,000+ students), with 60+ programs and degrees

- Graduate program in EECS
  - 60 faculty members,
  - 68 PhD candidates,
  - 51 MSc/MASc candidates, and

  - 58 admissions this fall 2018

Topics

- Degree requirements for MSc, MASc, PhD degrees
- Courses
- Supervisory committee
- Financial Support
- Teaching Assistantships
- Academic Honesty, Ethics
- Health & Safety
- Useful links and Support

MSc (thesis option)

- You need to complete **five** courses.
    - at least four courses must be <u>non-integrated</u> graduate courses (course number starts with a 6)
    - at most one may be an <u>integrated</u> graduate course (course number starts with a 5)
    - at least one course from the <u>theory of computing and scientific computing</u> group (1) (the second digit of the course number is a 1)
    - at least one course from the <u>AI and interactive systems</u> group (2) (the second digit of the course number is a 3)
    - at least one course from the <u>software systems and hardware systems</u> group (3) (the second digit of the course number is a 4 or 5)

- You need to defend a thesis.

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Examples – MSc (thesis option)

- EECS 6111: Advanced Algorithm Design and Analysis
- EECS 6117: Distributed Computing
- EECS 5324: Introduction to Robotics
- EECS 6324: From Control to Actuators
- EECS 6340: Embodied Intelligence

🚫 No course from groups 4 or 5

- EECS 6111: Advanced Algorithm Design and Analysis
- EECS 6117: Distributed Computing
- EECS 5324: Introduction to Robotics
- EECS 6340: Embodied Intelligence
- EECS 6412: Data Mining

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MSc (project option)

- You need to complete seven courses.
  - at least five courses must be <u>non-integrated</u> graduate courses (course number starts with a 6)
  - at most two may be <u>integrated</u> courses (course number starts with a 5)
  - at least one course from the <u>theory of computing and scientific computing</u> group (1) (the second digit of the course number is a 1)
  - at least one course from the <u>AI and interactive systems</u> group (2) (the second digit of the course number is a 3)
  - at least one course from the <u>software systems and hardware systems</u> group (3) (the second digit of the course number is a 4 or 5)

- You need to complete a project.
- For our PhD program, we require a MSc with thesis.

MSc (Artificial Intelligence Specialization)

- You need to complete six courses.
  - at least four courses must be <u>non-integrated</u> graduate courses (course number starts with a 6)
  - at most two may be <u>integrated</u> courses (course number starts with a 5)
  - at least three courses from the following list: EECS 5326, EECS 5327, EECS 6127, EECS 6327, EECS 6412
  - at least two courses from the following list: EECS 5323, EECS 5324, EECS 5326, EECS 5327, EECS 5326, EECS 6127, EECS 6322, EECS 6323, EECS 6325, EECS 6327, EECS 6328, EECS 6332, EECS 6333, EECS 6340, EECS 6390A, EECS 6390D, EECS 6412, EECS 6414
  - another three-credit graduate course

- You need to complete a research project in Artificial Intelligence in collaboration with an external partner

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MASc

- You need to complete the course EECS 6400.

- You need to complete three other courses.
  - at least two of those three courses must be <u>non-integrated</u> graduate courses
    (course number starts with a 6)
  - at most one may be an <u>integrated course</u>
    (course number starts with a 5)
  - the course selection must span at least <u>two</u> groups among:
    - computer systems engineering group (4)
    - electrical engineering group (5)
    - interactive systems engineering group (6)
  - …see list of courses on EECS graduate website for information

- You need to defend a thesis.

EECS 6400 – Computer Engineering Research Project

• This project course spans two terms.

• The topic of the project must be distinct from any assignments in any of the other courses.

• The topic of the project must be distinct from the thesis.

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EECS 6002 – Directed Reading

- Topic
  - that does not overlap with any other course taken, and
  - for which no course is currently being offered

- Faculty member, appointed to the graduate program, who wants to supervise the course.

- Directed reading form.

- Permission of graduate program director.

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Course Information and schedule

- Can be found at
  http://www.cse.yorku.ca/grad/courses.html

Courses in fall 2016

course	title	instructor	day	start time	duration	location	group
EECS 5111	Automata, Computability and Complexity	Patrick Dymond	MW	11:30	90	MC 112	1
EECS 5326	Artificial Intelligence	Zbigniew Stachniak	TR	11:30	90	LSB 101	2
EECS 5421	Operating Systems Design	Jia Xu	W	19:00	180	R S127	3, 4
EECS 5501	Computer Architecture	Mokthar Aboelaze	TR	10:00	90	CB 122	3, 4
EECS 6117	Distributed Computing	Eric Ruppert	TR	13:00	90	R S536	1, 4
EECS 6324	From Control to Actuators	Michael Jenkin	TR	14:30	90	BC 225	2, 4
EECS 6326	Principles of Human Perception and Performance	Robert Allison	WF	14:30	90	BSB 207	2, 5
EECS 6327	Probabilistic Models & Machine Learning	Hui Jiang	WF	13:00	90	R S536	2, 5
EECS 6432	Adaptive Software Systems	Marin Litoiu	TR	16:00	90	MC 109	3, 4
EECS 6590A	High-Performance Computer Networks	Suprakash Datta	TR	17:30	90	VH 2005	3, 4
EECS 6701	High Frequency Power Electronic Converters	John Lam	MWF	10:30	60	R S202	6

Course Selection

- Consult with supervisor on course choices.

http://www.cse.yorku.ca/grad/courses.html

- Enroll in courses by September 18
  (October 2 with permission of the instructor).

- Feel free to audit first lectures to decide on courses
  (courses begin September 5).

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MSc / MASc Requirements

- Complete program in five terms (20 months).
- Complete course requirements in first two terms (four terms if doing the project option).
- Decide on the thesis or project option by November 15.
- Complete progress report #1 by December 30.
- Complete progress report #2 by April 30.
- Maintain an average of at least B+ in the courses and satisfy the Faculty of Graduate Studies (FGS) grades regulations.[1]
- Get the thesis proposal approved at least three months before the thesis oral examination.
- Complete the thesis four weeks before the thesis oral examination.

[1] See http://gradstudies.yorku.ca/current-students/regulations/courses-grading/

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PhD

- You need to complete three courses.
  - at least two of the courses must be <u>non-integrated</u> graduate courses
    (course number starts with a 6)
  - at most one may be an <u>integrated course</u>
    (course number starts with a 5)

- You need to attend departmental seminars.

- You need to attend at least one professional development workshop per year
  - provided by Faculty of Graduate Studies, Mitacs, Lassonde, Teaching Commons

- You need to pass a qualifying examination.

- You need to prepare a dissertation proposal.

- You need to complete an industrial internship (3 to 6 months) or a teaching practicum.

- You need to defend a dissertation.

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PhD Requirements

- Maintain an average of at least B+ in the courses and satisfy the FGS grades regulations.[1]

- Pass a qualifying examination within five terms.

- Get the dissertation proposal approved at least six months before the dissertation oral examination.

- Complete the dissertation four weeks before the dissertation oral examination.

[1] See http://gradstudies.yorku.ca/current-students/regulations/courses-grading/

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Requirements in the Admission Letter

If your letter of admission contains additional requirements, then these need to be satisfied on top of all the requirements mentioned earlier.

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Dissertation Supervisory Committee

According to the FGS regulations

"A dissertation supervisory committee shall meet annually with the student, normally in the spring, to evaluate the Report on Progress submitted by the student and submit a completed copy of the Report on Progress to the graduate program director after the meeting"

"Reports to the graduate program director of unsatisfactory progress may require a student to withdraw"

Supervision

You are strongly encouraged to discuss the following check list with your supervisor:

http://gradstudies.yorku.ca/files/2018/01/supervisory-dicussion-topics.pdf

Financial Support

- Master's domestic: $25,000 per year for 20 months (up to $33,000 per year for students with external financial support).

- PhD domestic: $27,000 per year for 4 years (up to $35,000 per year for students with external financial support).[2]

- Must meet progress guidelines to continue receiving financial support.

- Your letter of admission may specify a higher amount

[2] For year 5 and 6, the Canadian Union of Public Employees (CUPE) minimum guarantee

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Teaching Assistantship

- The numbers of teaching assistant (TA) hours and the courses will be assigned based on availability and TAs' background.
  - We consider preferences of TAs.
  - We also consider preferences of course instructors.
- If you decline (part of) your TAship, your funding will be reduced accordingly (approximately $56 per hour).
- If you plan to go on leave, let us know at least one to two months before the leave, if possible.

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Teaching Assistantship

- TAs are members of CUPE 3903 Unit 1[3]
- As a Tutor 3 (marker/grader) you may be asked to grade student work, and perform related duties such as consultation with students, lab facilitation and exam invigilation
- Please be on time
- Consult with the Course Director (CD) to familiarize yourself with expectations and duties
- Respond to CD emails within 24 hours and finish marking by the deadline
- Mark neatly and informatively
- Complete a TA workload form with the CD
  - Assignment of tasks
  - Distribution of working hours
- Keep track of your hours and consult with CD if discrepancies are anticipated

[3] See http://3903.cupe.ca/files/2012/03/92365-1-YU-Unit-1.pdf

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Academic Honesty

- Familiarize yourself with
http://gradstudies.yorku.ca/current-students/regulations/academic-honesty/
and the links provided on the URL.

- Familiarize yourself with
https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/

- Behave academically honest (not doing so may have serious consequences).

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Research Ethics

- All University-based research involving human participants, including thesis and dissertation research, is subject to the ethics review process

- Research ethics approval must be granted BEFORE commencing the research

- Consult your supervisor and the Graduate Program Director for information on the process

- Information sessions about research ethics will be held in Fall 2018 and Winter 2019 at the Faculty of Graduate Studies. http://gradstudies.yorku.ca/current-students/thesis-dissertation/research-ethics/

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Health & Safety Training

Students in <u>Computer Science</u>

- Complete the first module (Health & Safety Orientation for Faculty & Staff) at
  <u>https://moodle.yorku.ca/moodle/course/view.php?id=36422</u>
  by September 31, 2018.

- Complete WHMIS I (online) at
  <u>https://dohs.apps01.yorku.ca/machform/view.php?id=48801</u>
  Print and submit completion confirmation to Ouma by September 31, 2018.

Health & Safety Training

Students in <u>Electrical and Computer Engineering</u>

- Complete the first module (Health & Safety Orientation for Faculty & Staff) at https://moodle.yorku.ca/moodle/course/view.php?id=36422 by September 31, 2018.

- Complete WHMIS I (online) at https://dohs.apps01.yorku.ca/machform/view.php?id=48801 Print and submit completion confirmation to Ouma by September 31, 2018.
OR <u>(MANDATORY FOR THOSE WORKING WITH CHEMICALS OR BIOLOGICAL AGENTS)</u>

- Complete WHMIS II (in class). Register at https://dohs.apps01.yorku.ca/machform/view.php?id=48801

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Health & Safety Training

Students in <u>Electrical and Computer Engineering</u>

Depending on the type of TAing and research, the following may also need to be completed:

- Biosafety (in class)
  This training is mandatory for anyone who will be working with biological materials and/or supervising workers with biological materials (e.g., viruses, bacteria, cell culture, etc.) in a certified containment level laboratory. Register at
  https://dohs.apps01.yorku.ca/machform/view.php?id=48801

- Chemical Handling & Volatile Rooms (in class)
  This training is mandatory for lab employees in Chemistry and Biology. Register at
  https://dohs.apps01.yorku.ca/machform/view.php?id=48801

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Useful Links and Support

For information, consult

http://gradstudies.yorku.ca/

http://eecs.lassonde.yorku.ca/current-students/grads-courses/

http://yugsa.ca/

https://teachingcommons.yorku.ca/

https://www.library.yorku.ca/web/

http://yorkinternational.yorku.ca/

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