Graduate Program in Electrical Engineering & Computer Science

Franck van Breugel

Department of Electrical Engineering and Computer Science
York University, Toronto

September 6, 2017

Welcome to . . .

- the Department of Electrical Engineering and Computer Science (EECS),
- the Lassonde School of Engineering (LSE),
- York University,
- Toronto, and
- Canada.

Welcome to . . .

the Graduate Program in Electrical Engineering & Computer Science.

The graduate program consists of

- 60 faculty members,
- 72 PhD candidates, and
- 59 MSc/MASc candidates.

Graduate program director

- Franck van Breugel
- Room 1012U of the Lassonde Building
- gpd@eecs.yorku.ca

Remainder of this presentation

- Requirements for
  - MSc (thesis option)
  - MSc (project option)
  - MASc
  - PhD
- Supervisory committee
- Courses
- Financial support
- Academic honesty
- Health and safety training

MSc requirements (thesis option)

You need to complete five courses.

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At least four courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated graduate course (course number starts with a 5).

MSc requirements (thesis option)

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At least four courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated graduate course (course number starts with a 5).

- At least one course from the theory of computing and scientific computing groups (the second digit of the course number is a 1 or 2).
- At least one course from the AI and interactive systems group (the second digit of the course number is a 3).
- At least one course from the software systems and hardware systems groups (the second digit of the course number is a 4 or 5).

MSc requirements (thesis option)

You need to complete five courses.

At least four courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated graduate course (course number starts with a 5).

- At least one course from the theory of computing and scientific computing groups (the second digit of the course number is a 1 or 2).
- At least one course from the AI and interactive systems group (the second digit of the course number is a 3).
- At least one course from the software systems and hardware systems groups (the second digit of the course number is a 4 or 5).

You need to defend a thesis.

MSc requirements (thesis option)

Question

John completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6412: Data Mining

Has he satisfied his course requirements? If not, explain why not.

MSc requirements (thesis option)

Question

John completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6412: Data Mining

Has he satisfied his course requirements? If not, explain why not.

Answer

No, because John only completed four courses.

MSc requirements (thesis option)

Question

Julia completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 5331: Advanced Topics in 3D Computer Graphics
- EECS 6412: Data Mining

Has she satisfied her course requirements? If not, explain why not.

MSc requirements (thesis option)

Question

Julia completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 5331: Advanced Topics in 3D Computer Graphics
- EECS 6412: Data Mining

Has she satisfied her course requirements? If not, explain why not.

Answer

No, because Julia may take at most one integrated graduate course (course number starts with a 5).

MSc requirements (thesis option)

Question

Franck completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6327: Probabilistic Models & Machine Learning
- EECS 6329: Advanced Human-Computer Interaction

Has he satisfied his course requirements? If not, explain why not.

MSc requirements (thesis option)

Question

Franck completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6327: Probabilistic Models & Machine Learning
- EECS 6329: Advanced Human-Computer Interaction

Has he satisfied his course requirements? If not, explain why not.

Answer

No, because Franck did not take one course from the software systems and hardware systems groups (the second digit of the course number is a 4 or 5).

MSc requirements (thesis option)

Question

Ouma completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6327: Probabilistic Models & Machine Learning
- EECS 6412: Data Mining

Has she satisfied her course requirements? If not, explain why not.

MSc requirements (thesis option)

Question

Ouma completes the courses

- EECS 5111: Automata, Computability and Complexity
- EECS 6115: Computational Complexity
- EECS 6323: Advanced Topics in Computer Vision
- EECS 6327: Probabilistic Models & Machine Learning
- EECS 6412: Data Mining

Has she satisfied her course requirements? If not, explain why not.

Answer

Yes.

MSc requirements (project option)

You need to complete seven courses.

MSc requirements (project option)

You need to complete seven courses.

At least five courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

MSc requirements (project option)

You need to complete seven courses.

At least five courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

- At least one course from the theory of computing and scientific computing groups (the second digit of the course number is a 1 or 2).
- At least one course from the AI and interactive systems group (the second digit of the course number is a 3).
- At least one course from the software systems and hardware systems groups (the second digit of the course number is a 4 or 5).

MSc requirements (project option)

You need to complete seven courses.

At least five courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

- At least one course from the theory of computing and scientific computing groups (the second digit of the course number is a 1 or 2).
- At least one course from the AI and interactive systems group (the second digit of the course number is a 3).
- At least one course from the software systems and hardware systems groups (the second digit of the course number is a 4 or 5).

You need to complete a project.

MSc requirements (project option)

You need to complete seven courses.

At least five courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

- At least one course from the theory of computing and scientific computing groups (the second digit of the course number is a 1 or 2).
- At least one course from the AI and interactive systems group (the second digit of the course number is a 3).
- At least one course from the software systems and hardware systems groups (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.

MASc requirements

You need to complete the course EECS 6400.

MASc requirements

You need to complete the course EECS 6400.

You need to complete three other courses.

MASc requirements

You need to complete the course EECS 6400.

You need to complete three other courses.

At least two of those three courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

MASc requirements

You need to complete the course EECS 6400.

You need to complete three other courses.

At least two of those three courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

- At least one course from the computer systems engineering group and at east one course from the interactive systems engineering group, or
- at least one course from the computer systems engineering group and at east one course from the electrical engineering group, or
- at least one course from the interactive systems engineering group and at east one course from the electrical engineering group.

MASc requirements

You need to complete the course EECS 6400.

You need to complete three other courses.

At least two of those three courses must be non-integrated graduate courses (course number starts with a 6) and at most two may be integrated courses (course number starts with a 5).

- At least one course from the computer systems engineering group and at east one course from the interactive systems engineering group, or
- at least one course from the computer systems engineering group and at east one course from the electrical engineering group, or
- at least one course from the interactive systems engineering group and at east one course from the electrical engineering group.

You need to defend a thesis.

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.

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

EECS 6400

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

EECS 6400 ✓

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least two those three courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least two those three courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5). ✓

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the computer systems engineering group.

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the computer systems engineering group.

✓EECS 5501

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the interactive systems engineering group.

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the interactive systems engineering group.

✓EECS 6323

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the electrical engineering group.

MASc requirements

Student completes the courses

- EECS 6400: Computer Engineering Research Project
- EECS 5501: Computer Architecture
- EECS 6611: Mixed-Signal Microsystems Design
- EECS 6323: Advanced Topics in Computer Vision

At least one course from the electrical engineering group. ✓EECS 6611

Course schedule

course	title	instructor	day	start time	duration	location	group
EECS 5323	Computer Vision	Richard Wildes	MWF M or T	9:30 14:30	60 60	CB 115 LAS 1004	2, 6
EECS 5326	Artificial Intelligence	Zbigniew Stachniak	TR	11:30	90	PSE 321	2
EECS 5443	Mobile User Interfaces	Scott MacKenzie	TR R	10:00 11:30	90 120	VH 3009 LAS 1004	3, 4
EECS 5501	Computer Architecture	Mokthar Aboelaze	TR	10:00	90	PSE 321	3, 4
EECS 6002	Machine Learning Theory	Ruth Urner	MW	11:30	90	BRG 211	1
EECS 6115	Computational Complexity	Patrick Dymond	TR	17:30	90	BC 228	1

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

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 March 15.
- Complete progress report #1 by April 15.
- Complete progress report #2 by August 15.
- 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/`.

PhD requirements

You need to complete three courses.

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

You need to pass a qualifying examination.

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

You need to pass a qualifying examination.

You need to prepare a dissertation proposal.

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

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.

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

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.

PhD requirements

You need to complete three courses.

At least two of the courses must be non-integrated graduate courses (course number starts with a 6) and at most one may be an integrated course (course number starts with a 5).

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.

You need to attend departmental seminars and professional development workshops.

PhD requirements

- Maintain an average of at least B+ in the courses and satisfy the FGS grades regulations.[2]
- Get the dissertation proposal approved at least six months before the dissertation oral examination.
- Complete the dissertation four weeks before the dissertation oral examination.

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

Course average

Question

In his five courses, Franck received one A, three Bs and one C. Is his average sufficient?

Course average

Question

In his five courses, Franck received one A, three Bs and one C. Is his average sufficient?

Answer

No.

Course average

Question

In her five courses, Ouma received two A+s, two As and one B. Is her average sufficient?

Course average

Question

In her five courses, Ouma received two A+s, two As and one B. Is her average sufficient?

Answer

Yes.

Requirements in admission letter

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

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."

Annual dissertation supervisory committee meetings

According to the FGS regulations

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

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.

You are allowed to take at most one directed reading course.

Course selection

- Consult with supervisor on course choices.
  `http://www.cse.yorku.ca/grad/courses.html`
- Enroll in courses by September 20
  (October 4 with permission of the instructor).
- Feel free to audit first lectures to decide on courses.

Teaching assistantships

- The numbers of teaching assistant (TA) hours and the courses will be assigned based on availability and TAs' background.
- If you decline (part of) your TAship, your funding will be reduced accordingly.
- If you plan to go on leave, let us know at least one to two months before the leave if possible.
- TA orientation: Lassonde Building, room 3033, Monday September 11, 14:00-15:00.

Academic honesty

- Familiarize yourself with `http://gradstudies.yorku.ca/current-students/regulations/academic-honesty/` and the links provided on the URL.
- Complete Yorks academic integrity tutorial at `https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/`.
- Complete the Academic integrity quiz at `https://moodle.yorku.ca/moodle/course/view.php?id=52143`.
- Submit a print out of the results page to Ouma by September 15, 2017.
- Behave academically honest (not doing so may have serious consequences).

Health and safety training

Students in Computer Science

Complete the first module (Health & Safety Orientation for Faculty & Staff) at `https://moodle.yorku.ca/moodle/course/view.php?id=36422` by September 15.

For better tracking of your training record, you should use an Employee ID based Passport York account (different from a Student ID based Passport York account). If you do not have an Employee based Passport York account, go to: `http://staff.computing.yorku.ca/faculty-staff/passwords-passport-york-access/`

Health and safety training

Students in Computer Science

Complete the second module (WHMIS Level 1) at `https://moodle.yorku.ca/moodle/course/view.php?id=36422`.

Print and submit completion confirmation to Ouma by September 15, 2017.

WHMIS is required to be taken every three years.

Health and safety training

Students in Engineering

Complete the first module (Health & Safety Orientation for Faculty & Staff) at `https://moodle.yorku.ca/moodle/course/view.php?id=36422` by September 15.

For better tracking of your training record, you should use an Employee ID based Passport York account (different from a Student ID based Passport York account). If you do not have an Employee based Passport York account, go to: `http://staff.computing.yorku.ca/faculty-staff/passwords-passport-york-access/`

Health and safety training

Students in Engineering

Complete WHMIS Level 2 (in class).

Register at `https://dohs.apps01.yorku.ca/machform/view.php?id=48801` for WHMIS Level 2.

It will be offered Thursday September 7, 13:30–16.30 in the Accolade East Building, room 005.

WHMIS is required to be taken every three years.

Health and safety training

Students in Engineering

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` for Biosafety: Full Training.

  It will be offered
  - Friday September 8, 9:00–12:0 in the Petrie Building, room 321;
  - Thursday September 14, 13:00–16:00 in the Kaneff Tower, room 519;
  - Thursday September 28, 13:00–16:00 in the Kaneff Tower, room 626

Health and safety training

Students in Engineering

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

- 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` for Chemical Handling & Volatile Rooms.

  It will be offered

  - Thursday September 7, 10:00–11:00 in Bethume College, room 203;
  - Friday September 8, 13:30–14:30 in Chemistry Building, room 129.

Health and safety training

If you have any questions, please contact Ed Secnik at edward.secnik@lassonde.yorku.ca.

For more information

- `http://eecs.lassonde.yorku.ca/`
- `http://gradstudies.yorku.ca/`
- Lassonde Building, room 1012U
- Lassonde Building, room 1012T