

Graduate Program in Electrical and Computer Engineering**Departmental Procedure¹ for
Doctoral Candidacy Examination**

Every doctoral student in the Electrical and Computer Engineering Graduate Program is required to complete a *Candidacy Examination* to ascertain student's understanding of the basic theories and the recent theoretical and applied developments in his/her area of specialization, and competency to undertake research commensurate with a Ph.D. degree.

Candidacy Examination

- Must be held within 20 months from the date of initial enrollment.
- Shall be conducted by an Examination Committee consisting of:
 - *Supervisory Committee*² members,
 - *Associate Chair of Graduate Studies* (or his/her designate) as the Chair, and
 - Where appropriate, one additional YSGS member from outside of the student's program, a faculty member from outside of YSGS, or an expert professional in the field. This additional member will be included at the discretion of the supervisor, in consultation with the student, and must be approved by the Dean of YSGS.
- Will consist of two parts:
 - Part 1-the *Written Examination*
 - Part 2-the *Oral Examination*
- Is confidential and not open to public.

Components and Procedure of Candidacy Examination

¹ This procedure is consistent with the *Guidelines for Candidacy Examinations in Doctoral Programs in Science and Engineering*.

² Prior to the Candidacy Examination, a Supervisory Committee composed of 3 to 4 members must be setup. The student's supervisor will recommend to the Associate Chair of Graduate Studies the appointment of the Supervisory Committee.

Part 1: Written Examination

- Will test the student on four sets of questions, two from *Category 1* courses and two from *Category 2* courses; the courses are selected by the student, in consultation with and approval of the supervisor.
- Shall be written in 3 hours (45 minutes per question set).
- Shall be closed-book; any aids (e.g., formula or tables) shall be included with the questions.

Category 1 courses consist of the following fundamental courses:

1. COE428 Engineering Algorithms and Data Structures
2. COE328 Digital Systems
3. COE538 Microprocessor Systems
4. COE628 Operating Systems
5. ELE401 Field Theory
6. ELE302 Electric Networks
7. ELE404 Electronic Circuits I
8. ELE532 Signals and Systems I
9. MTH 514 Probability and Stochastic Processes

Category 2 courses consist of any two 3rd- or 4th-year undergraduate courses that have not already been taken as a graduate course.

To pass the *Written Examination*, the student must pass all 4 sets of questions with a minimum score of 60% in each set. A failed *Written Examination* may be repeated one time.

For the most up-to-date course descriptions, refer to the Ryerson University's website at <http://www.ryerson.ca/calendar/>

Administration

The following guidelines will be followed in administering the *Written Examination*:

- In each term, all the *Written Examinations* will be scheduled to be held on the same date/time, if possible.
- The student, after consultation with and approval of the supervisor, must identify the four courses to the *Associate Chair of Graduate Studies*.
- The *Associate Chair of Graduate Studies* will solicit questions, for each of the four sets of questions, normally, from the current or past instructors of the courses. However, questions cannot be solicited

from the supervisor (if he/she is an instructor of any of the elected courses).

- The faculty member who has prepared a set of questions (i.e., an *Examiner* of the *Written Examination*) will also mark the questions.
- The numerical mark, out of 100, along with any comments from the *Examiner*, will be reported to the *Associate Chair of Graduate Studies*, which, in due course, will be made available to the Chair of the *Examination Committee*.

Part 2: Oral Examination

- Will be conducted by the *Examination Committee*.
- Must be held no later than four months from the date of the *Written Examination*.
- Requires a copy of the research proposal, to be submitted to the *Examination Committee*, no later than one month prior to the *Oral Examination* date.
- Normally, takes two hours.
- Will commence with a 30-minute presentation by the student on his/her research proposal.
- Proceeds with an examination of the student by the committee, on his/her research proposal.

To decide on the outcome of the *Oral Examination*, the *Examination Committee* shall vote. The members of the *Examination Committee* are all voting members. In the case of co-supervision, the co-supervisors will have one vote combined.

Decision on the Candidacy Examination

The student must pass both the *Written Examination* and *Oral Examination*. The decision will be reflected on the *Report of the Doctoral Candidacy Examination Committee* form.