# Graduate Matters – June 9, 2020

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# UPDATED Timeline for Re-introducing a PhD in Computer Science

These are targets we should strive for to make February Senate.

| | | |
|---|---|---|
| 1. | Circulate Draft Proposal for Faculty Feedback | June 30 |
| 2. | Re-circulate Revisited Proposal | July 31 |
| 3. | Obtain School Approval | August |
| 4. | Letter of Support from Dean, AVP | August |
| 5. | Division Committee Feedback | September |
| 6. | External Reviewer Site Visit | November |
| 7. | Graduate Programs and Policy Committee | November |
| 8. | Board of Graduate Studies | December |
| 9. | **Senate** | **Feb 1** |
| 10. | Ontario Universities Council on Quality Assurance | March? |
| 11. | Ministry of Training, Colleges and Universities | April? |

# Old PhD Course Requirements

A PhD student, following the completion of a recognized master's degree in Computer Science or related discipline, is required to take the Technical Communication and Research Methodology course CIS*6890 (unless the student has taken an equivalent course in the Masters program) **and at least four other CIS graduate courses** with an overall average of at least 70%. With approval from the Graduate Committee, a CIS graduate course requirement may also be met by a non-CIS graduate course. At most one may be a reading course CIS*6660.

A PhD student admitted without an appropriate Masters is required to take the Technical Communication and Research Methodology course CIS*6890 **and at least eight CIS graduate courses** with an overall average of at least 70%. With approval from the Graduate Program Committee, a CIS graduate course requirement may also be met by a non-CIS graduate course. At most two reading courses CIS*6660 and at most one 4000-level course can count towards the course requirement.

`https://www.uoguelph.ca/registrar/calendars/graduate/2013-2014/gradprog/cis-phd.shtml`

# Old PhD Breadth Requirements

For breadth requirement purposes, the subject matter of computer science is divided into three broad categories, and each category is subdivided into two to three areas:

1. SYSTEMS (CATEGORY S)
   - Software Engineering (area S1)
   - Programming Languages (area S2)
   - Computer Architecture and System Software (area S3)
2. MATHEMATICS OF COMPUTATION (CATEGORY M)
   - Algorithms and Complexity (area M1)
   - Scientific and Symbolic Computing (area M2)
3. APPLICATIONS (CATEGORY A)
   - Artificial Intelligence (area A1)
   - Databases (area A2)
   - Graphics, Imaging and User Interfaces (area A3)

Each SOCS graduate course falls into one of the eight areas. **A student must have sufficient background in five of these areas, including at least one from each category.**

Each course must have a grade of at least 70% and at most one reading course may be counted towards fulfilling the breadth requirements.

A student must satisfy the breadth requirement no later than the fourth semester after entering the program, otherwise the student may be required to withdraw from the program.

`https://www.uoguelph.ca/registrar/calendars/graduate/2013-2014/gradprog/cis-phd.shtml`

# Current Requirements From Other Ontario Universities

The following information was scraped from the other University websites for their PhD in Computer Science. The course requirement is in addition to any technical communications course, and in some cases teaching courses/internships:

| University | Courses Required | Breadth |
|---|---|---|
| U of T | 4 | coursework |
| Waterloo | 4 | coursework |
| McMaster | 4 | exam |
| Carleton | 3 | exam |
| Queens | tokens | coursework tokens |
| Ottawa | 4 | exam |
| Western | 4 | undergrad course coverage |
| York | 3 | none (teaching/industrial practicum) |
| Windsor | 2 to 4 | coursework / exams |
| Ryerson | 4 | 2 courses in 2 fields |

Other conditions: At most 2 course outside CS, mandatory attendance of seminars, breadth met in first 4 terms

# A Question to Assoc VP Grad Studies

**Question by Joe:** If we try to go with no course requirement (except our seminar course) do we have the support of your Office, and also, do you feel it will pass the scrutiny of external review?

**Answer from Ben:** Indeed, universal PhD degree requirements do not specify course requirements. That said, if your peers all view some training as necessary, then this sounds like it is 'required' in your discipline (and hence external reviewers will say as much). If the selection of a standard 4 courses makes no sense, then it could be that you have 2 standard, and then some committees will use page 4 of this form to add more as needed.

Ben further commented that the proposal is unlikely to be approved with no course requirement (except 6890) if external reviewers request it.

# Proposed Requirements

**Course requirement**: CIS 6890 plus two to four additional graduate level courses. The additional courses should be prescribed in consultation with the advisory committee.

**Breadth requirement:** A total of 8 graduate courses must be completed (including CIS 6890), where at least four (not including CIS 6890) have content related to computer science. This includes courses from previous degrees, where a thesis counts for one course credit. Each course must have a grade of at least 70% and at most one reading course can be used to satisfy this requirement. A student must satisfy the breadth requirement no later than the 4th semester after entering the program.

- Broad range of research interests motivates no restriction that courses be in CS
- Reduced course requirement may offer a pathway from our PhD in Computational Sciences
- Does not require revisiting our course offerings with proposal
- Provides an easy to administer breadth requirement - no exams, no breadth areas
- No statement of breadth will certainly draw attention of reviewers, so state a flexible and simple to administer option to ensure breadth