JANUARY 2011 Regulations (Students entering prior to September 2012)

Changes to PhD program were passed at the Department Meeting on December 9, 2010. It is expected that students entering our program in January 2011 or later will follow the new regulations explained here. Students in program previous to this can either follow the old regulations or opt to choose the new ones.

1. Course Requirements for the PhD Program

Goal: The main goal of the course requirements is to increase the quality of our PhD program by requiring that graduate students develop depth in a broad range of disciplines within and possibly outside computer science.

Students will be required to have achieved at least a grade of B in at least eight courses beyond the requirements for an undergraduate degree before completion of the PhD degree. At least three of these must be taken while the student is enrolled as a PhD student in Computer Science at the University of Calgary. Of the eight courses, at least six must be graduate level courses, with the remaining two courses being either graduate level courses or advanced (500-level) undergraduate courses. In addition to the above courses, Computer Science 699 or equivalent is required and does not count toward the minimum 8 half-courses above.

Students must have achieved at least a grade of B in two graduate courses in each of three categories. These three categories are to be selected from the following four categories:


D. External to Computer Science. If this category is used, the two courses must be presented with a justification as to why they are another area, and must be approved by the student's supervisor and the graduate committee.

The list of all graduate courses offered in a term shows the category for each course.

In particular cases, course programs for PhD students can deviate from the above by designing and justifying an alternative breadth/depth program that satisfies the supervisor, the supervisory committee, and the graduate committee. In case of conflict an appeal committee will be struck by the Head of the Department.
2. Single-Authored Scientific Paper

PhD students have to submit a single-authored scientific paper when scheduling their candidacy exam. The purpose of the paper is to demonstrate to the committee that the student has the required writing, background, and technical skills to contribute to her/his area of research.

In the following, "the paper" means the scientific paper that the student submits when scheduling the candidacy exam.

The topic of the paper must be approved by Supervisory Committee and should be related to Ph.D. research topic. This approval should usually be sought before the paper is written but a supervisory committee is able to approve a topic retroactively (i.e. after the paper was written). Retroactive approval allows a student to make a deadline for submission to a conference without worrying about getting the topic approved. It carries a risk as the supervisory committee might not approve the topic and another paper might have to be written by the student. Thus, the student and supervisor should try to get the paper topic approved before the paper is written and retroactive approval should be an exception.

The paper can be a survey paper, a scientific review, a new methodology, a theoretical paper, a practical implementation paper, a system architecture paper or a case study or other empirical work. The supervisory committee is able to approve topics outside of these categories if appropriate for the student's research, i.e. the supervisory committee has a wide discretion in determining the paper topic provided that it is in the best interest of the student.

The candidate must have written the paper while enrolled in the PhD program. While the work described in the paper can be based on a collaboration between the student and the supervisor(s), the paper must be single-authored. As the paper is supposed to be an example of the candidate's research as well as writing skills, no other person is allowed to have copy-edited or commented on the paper that is submitted for the exam. Computer spell and grammar checking is allowed (in fact, encouraged).

The supervisory committee must have approved the paper by majority vote before the oral candidacy exam is scheduled.

The supervisory committee's approval in essence is a pass/fail evaluation of the paper. Pass means the paper is sufficiently well researched and written to allow the student into the oral exam. For passing the paper, there is no requirement that the paper is publication ready.

The student can submit the paper to peer-review before it is being used as part of the candidacy requirement. The student can collaborate with others before submitting the paper to peer review - but the version submitted when scheduling the candidacy exam must be the draft version that was solely written by the candidate. This particularly allows a student to write a first draft of a paper that is then revised by the supervisor before being submitted to peer review.
3. Reading List

The reading list should give a student the basic background required for conducting her/his research. The reading list is prepared by the student’s supervisor in collaboration with the supervisory committee, and given to the student at least two months before the oral candidacy exam. The reading list limits the scope of questions in the candidacy exam.

4. Research Proposal

A research proposal, approved by the student’s supervisory committee, must be submitted when the oral candidacy exam is scheduled. The research proposal will contain an abstract, a literature survey (including an analysis of the literature), an overview of the proposed research, a plan for completing the proposed research, and references. This proposal will provide the focus for questions related to the candidate's thesis topic in the Faculty Candidacy Exam.

5. Faculty Candidacy Examination

This examination is an oral exam intended to assess both the candidate's preparation in subjects relevant to the general field of research, and his/her research potential. All departmental requirements (courses, single-authored scientific paper and proposal) must be completed before the Faculty Candidacy Examination is scheduled. All material submitted when scheduling the exam will be circulated to the examiners and will serve as a basis for questioning at the candidacy oral exam. The Faculty Candidacy Examination must be taken no more than 28 months after initial registration for a candidate with a completed MSc, or within 36 months for a candidate with a Bachelor's degree or who transfers to a doctoral program before completing an MSc.

Oral candidacy exam needs to be scheduled at least one month before the exam date.

When the candidacy exam is scheduled (i.e. when the FGS notice of candidacy exam is submitted), the student/supervisor need to submit the following:

- The official FGS form
- A departmental form that confirms single authorship of the paper as well as approval by the supervisory committee of paper topic and content
- The reading list
- The research proposal
- The single-authored scientific paper
- A copy-edited version of the paper (optional)

The candidate and the supervisor need to sign a departmental candidacy form. With the signature, the candidate confirms in writing that the paper was written by herself/himself alone. The supervisor confirms in writing that to her/his best knowledge the paper is a single-authored paper in the sense of this guideline here as well as that the topic and content of the exam was approved by the supervisory committee.
6. Department Seminar

Every PhD candidate must give at least one department seminar on their research before their final oral defense.

7. Dissertation & Oral Defense

The dissertation must present significant, original research that represents an advance in knowledge in the field of specialization, and that warrants publication of its results in fully refereed recognized journals and / or high-quality conferences.

The final oral exam must be held at most six calendar years after initial registration. The dissertation is adjudicated by a Final Oral Exam Committee, which also conducts the final oral exam based on the Faculty of Graduate Studies regulations.

Normal Ph.D. Timeline

1. Within the first few weeks on Campus, the student needs to discuss course selection with the supervisor(s). The program needs then be documented by the student and submitted for approval by the graduate director. Getting this approval at the start of the program ensures that the course selection is meeting the departmental breadth requirement and avoids that the student is required to take extra courses later on.
2. The first 8 months in the PhD program are usually filled with course work.
3. Faculty of graduate studies expects that a supervisory committee is set up within three months in the PhD program. As in CPSC supervisors are usually appointed on admission, the student should discuss a supervisory committee within the first three months after arriving on Campus. Some delay in setting up the supervisory committee is tolerated as other departments on Campus only assign supervisors within the first year in program.
4. In collaboration with the supervisor(s), the student determines the research topic.
5. In collaboration with the supervisory committee, the supervisor creates the reading list for the student. The reading list must be provided to the student at least two months before the oral candidacy exam.
6. The student, in collaboration with the supervisor, suggests a topic for a scientific paper and gets it approved by the supervisory committee.
7. The student authors a scientific paper and submits it to the supervisory committee.
8. The supervisory committee evaluates the paper and approves it if deemed appropriate. If not, the rationale for the negative evaluation is provided to the student and a topic for another scientific paper is determined.
9. The student prepares a research proposal and gets it approved by the supervisory committee.
10. The examination committee for the oral candidacy is determined. Examiners are selected to ensure that the Faculty or Graduate Studies regulations are fulfilled.
Usually, the supervisor contact potential examiners and confirms their willingness to participate.

11. The oral candidacy exam is scheduled by filling in the required forms and submitting the required documents (see above). The oral candidacy exam must be scheduled for a date at least one month after the paperwork is submitted. The oral candidacy exam MUST be conducted within 28 months of starting into the PhD program (within 36 months if the student did not have a MSc or switched from the MSc into the PhD program)

12. The oral candidacy exam is executed following Faculty of Graduate Studies guidelines.

13. The student finishes her/his research and submits a thesis.

14. The oral exam is conducted following Faculty of Graduate Studies guidelines.