DEPARTMENT OF COMPUTER SCIENCE

PhD REGULATIONS AND PROCEDURES

(Revised: September 2014)
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1. PHD ADMISSION REQUIREMENTS

The requirements for admission to the PhD Program of the Department of Computer Science at the University of Victoria consist of:

| Prerequisites | • Must satisfy the admission requirements of the Faculty of Graduate Studies  
|               | • Must provide evidence of ability to undertake substantial original research. This typically includes at least two letters of recommendation from qualified referees, the completion of a Master's thesis and other scholarly work. |
| Previous Degrees | A Master's degree in Computer Science, or the equivalent, with a first-class standing. |
| Grades | First class standing (>79%) is required for courses taken in the last two years of the previous degree |
| GRE | The GRE test is not required, but is highly recommended for international students |
| Language | Applicants whose first language is not English should refer to the Language Proficiency requirement for the Faculty of Graduate Studies. |
| Decisions | Final decision on admissions are made by potential supervisors |

**NOTE**: A recommendation for admission by a faculty member who will serve as academic supervisor is required for applicants to gain entry into our graduate programs. Therefore, it is strongly recommended that applicants directly contact those CS faculty members who are in their anticipated research area. Areas of research can be found at: http://web.uvic.ca/calendar

1.1. Application for Admission

A complete application for admission to a PhD program consists of the following items:


• Resume: A brief and complete resume summarizing your activities and achievements (academic and professional) to date. List clearly the formal education you have received (similarly to the application form above) plus work experience.

• Statement of Intent. A one page description of your career goals and research interests. This should include a summary of any previous experience of research (honour thesis, graduation projects), plus a possible plan for future research. Be focused and precise, and highlight your strengths. State the reasons for wanting to become a PhD candidate.

• References. At least two academic or professional references who are familiar with your work.

• Documentation. The documents required to start the evaluation of your application must be uploaded at the time of application. These include unofficial transcripts from all institutions you have attended (including UVic), a copy of your CV/Resume, Statement of Intent, TOEFL/IELTS score.

How to Submit Documents. See: [http://web.uvic.ca/gradstudies/students/documents.php](http://web.uvic.ca/gradstudies/students/documents.php)

Deadlines. While applications may be submitted at any time and students may opt to commence in any of three terms, it should be noted that our programs are mostly geared toward those who start in September. The three terms start in September (Fall), January (Spring) and May (Summer). Note that, the major deadline to be considered for most of the University of Victoria Fellowships (one of the major scholarships) for all students is January 15 of each year.
1.2. Special Cases

**Admission without a Master's degree.** In exceptional cases, if a student shows outstanding academic promise, he or she may directly enter the PhD program with only a major or honours undergraduate degree in Computer Science/Computer Engineering/Software Engineering (or its equivalent). The minimum requirements of the Faculty of Graduate Studies are a cumulative grade point average of 7.0/9.0 (A-) on the final two years of the bachelor’s degree, or completion of at least two terms in a master’s program at UVic.

A potential supervisor and an applicant in collaboration may request the Faculty of Graduate Studies to approve such an admission by following these expected procedural steps:

- discussion and agreement on offer of admission;
- a complete PhD application prepared by the applicant;
- at least three strong letters of reference (one letter may be from the potential supervisor);
- submission of a written proposal by the applicant outlining the reasons for such admission to the departmental Graduate Studies Committee;
- after the approval of the departmental Graduate Studies Committee, submission of a letter of support from the Graduate Advisor, on behalf of the Graduate Studies Committee, to the Dean of Graduate Studies;
- submission of the written proposal by the applicant outlining the reasons for such admission to the Dean of Graduate Studies, together with all the previous documentation from above.

**Mature Students.** Mature applicants who do not meet the minimum requirements may be allowed admission as a “Conditionally Admitted Mature Student” (C.A.M.S.) if they satisfy the following requirements:

- at least 4 years have passed since the completion of a Master's degree;
- the applicant has at least 4 years of relevant professional experience;
- a recommendation by the department.

Submission of a complete resume is required to determine eligibility as a mature student. Such recommendations must be approved by the Dean of Graduate Studies.

All PhD students are admitted by the Faculty of Graduate Studies as provisionally candidates, until they have passed their candidacy examinations, at which time they are automatically classified as candidates for the degree of Doctor of Philosophy.

**Transfer from a MSc Program to a PhD.** A student currently enrolled in the Masters program who wishes to transfer directly to the PhD program without completing the Masters degree may be recommended to the Dean of Graduate Studies by the Graduate Studies Committee in the academic department of the transfer. Requests for transfer will be considered at any time after two terms in a master’s program.

This is an exceptional case, when a student and the supervisor may decide that a direct transfer from a MSc graduate program into a PhD graduate program is an appropriate choice, without finishing all the requirements of the MSc. Normally the student has taken all the required course work and is well advanced in a research program, but it does not seem necessary to submit a complete MSc thesis document and have an oral defense. For example, this could be the case when the research already completed for the MSc thesis has developed into original work of considerably larger scope and can easily be extended to become a PhD dissertation.

Completion is required within seven years from the date of the first registration in the master’s program. Students who are recommended for transfer to the doctoral program within the same department are not normally required to submit additional assessment reports.
The main goal is to have a proposal for transfer, prepared by a student in consultation with the academic supervisor, approved by the Dean of Graduate Studies, with formal support from the student’s Supervisory Committee and from the department’s Graduate Committee. The expected procedural steps to be initiated and followed by a student are:

1. discussion with supervisor;
2. discussion with Graduate Advisor (recommended);
3. submission of a written proposal for transfer, outlining the reasons, to the supervisor and to the Supervisory Committee;
4. discussion, possible meeting and approval from the members of the student's Supervisory Committee and the supervisor;
5. submission of the written proposal for transfer and a letter of support for the transfer from the Supervisory Committee to the departmental Graduate Studies Committee;
6. after the approval of the Graduate Studies Committee: submission of the written proposal for transfer, the letter of support from the Supervisory Committee and a letter of support from the Graduate Advisor, on behalf of the Graduate Studies Committee, to the Dean of Graduate Studies. Also, the student is required to complete the Reregistration process (See: Graduate Studies website www.uvic.ca/graduatestudies/)

Note that a few items are implicit in this process, namely:

- a student’s Supervisory Committee is already in place for the current MSc graduate program and the proposal includes extra name(s) for members of the possible new PhD Supervisory Committee;
- the procedures are mainly driven by the student with support of the supervisor;
- the proposal for transfer should include both the research items and the administrative items pertinent to the transfer (e.g. plans for the breadth requirements).

2. PHD COMMITTEES

2.1. Student’s Supervisory Committee

The student's program of study is under the direction of a Supervisory Committee is composed of a minimum of three members: The academic supervisor from the home academic unit plus at least one other member from within the home academic unit plus at least one member from outside the home academic unit. Any regular member of the Faculty of Graduate Studies is eligible to serve.

2.2. Student’s Examining Committee

This consists of the Supervisory Committee plus a Chair (appointed by the Dean of Graduate Studies) and at least one other external examiner from outside the University. Such external examiners are recommended by the Supervisor to the Dean of Graduate Studies and are appointed by the Dean of Graduate Studies. The individual must be an arm’s-length authority in the field of research being examined. The supervisor (co-supervisors) must complete the form: External Examiner’s Confirmation of Arm’s-Length Status (See: Graduate Studies website, link to FORMS).

2.3. Graduate Studies Committee

The Graduate Studies Committee consists of faculty members of the Department of Computer Science, as well as one Graduate Student Representative. The responsibilities of this committee include such tasks as admission decisions, curriculum deliberations, administration of policies and procedures, and determinations of graduate awards. The Graduate Advisor is the Chair of this committee. The Graduate Advisor is the formal liaison officer between the department and the Faculty of Graduate Studies.
3. PHD PROGRAM REQUIREMENTS

Students admitted to the doctoral program are expected to demonstrate breadth, to pass the candidacy examination, to write and defend the dissertation successfully, to fulfill the course requirements, and to have yearly progress reports.

3.1. PhD Course Requirements

For students entering with a Master's degree, the PhD program consists of a minimum of six units of course work at the 500 level or higher, that is, four graduate courses.

For students admitted to the PhD Program with a Bachelor's degree, the requirement is a minimum of twelve units of course work (eight courses), where at least nine units (six courses) must be at the 500 level or higher.

For all students, a PhD program must include the research skills' course (C SC 595, 1.5 units), which is to be over and above the course work required. If a student has already taken an equivalent research skills' course during the course of a previous graduate program, an exemption can be applied for by the student in the form of a brief written request, to be approved by the Graduate Studies Committee.

3.2. PhD Breadth Requirements

The department of Computer Science believes that any candidate for a PhD degree, before graduating, must show a firm grasp of the overall field of Computer Science. The PhD breadth requirement ensures that this goal is fulfilled, normally by taking advanced courses in a broad range of categories and areas.

In order to define the breadth requirements, three major categories are identified within Computer Science. Each category is subdivided into areas that represent a range of the fields of computer science, as given in the table below.

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<th>Theory</th>
<th>Applications</th>
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<td>Areas</td>
<td>Software Engineering</td>
<td>Design and Analysis of Algorithms</td>
<td>Databases</td>
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<td></td>
<td>Programming Languages</td>
<td>Scientific Computing</td>
<td>Artificial Intelligence</td>
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<td></td>
<td>Hardware and Software Systems</td>
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Areas not listed explicitly can still be perfectly acceptable. However, it is up to the student to justify in which category they should be classified and their academic value to the doctoral program. As an example, the area of “Databases” might fit entirely within the “Applications” category, or it may be considered as an area in either the “Theory” or “Systems” category, depending on the academic content being evaluated.

Normally the breadth requirement is fulfilled by courses in the appropriate areas and categories. Other verifiable experience may be acceptable at the discretion of the CSc Graduate Committee. The requirement is specified in terms of number of courses selected from each of the categories as described in the following:
1. Include at least seven courses (equivalent at UVic to 10.5 units). Five of them must be graduate courses. Two of them can be 4th year undergraduate courses. (Note: a student may be allowed to make arrangements to upgrade a previous 4XX level course to a graduate level course).

2. Each category, namely Systems, Theory and Applications, must be covered by at least one of the graduate courses, but no more than one category can be covered by only one course (that is, a distribution of 5 courses in one category and 1 course for each of the two remaining categories is not acceptable).

3. The minimum grade required for each course is the equivalent of B.

4. Up to two relevant courses outside of CSc may be used, subject to approval by the student's Supervisory Committee and the CSc Graduate Committee.

3.2.1. Procedures for the Breadth Requirements

**Step 1:** By the end of the first term of entering a PhD program, a new student prepares a document, in collaboration with the supervisor, detailing relevant past courses and future plans for graduate courses. The document is to be submitted for evaluation to the CSc Graduate Committee and it should include:

1. Courses or equivalent (including theses) which can be used to fulfill part of the breadth requirement.
2. A proposed program of study which the student intends to complete in order to fulfill the remaining part of the breadth requirement.
3. A preliminary schedule of when courses will be taken.

Both a template/form and a sample successful proposal are provided as guidelines for an effective document. [Refer to the department website – Current Students]

**Step 2:** The CSc Graduate Committee must be able to determine a possible equivalence of the courses used to fulfill the requirement, as compared to known courses at UVic. The student must provide sufficient evidence that a course (or other experience) listed does indeed fulfill an area requirement. Pertinent information includes course syllabi, textbooks used, descriptions of prerequisites or co-requisites, evaluation from the instructor, and copies of relevant entries from university calendars. The CSc Graduate Committee evaluates the Breadth Requirement submission at the next available meeting. The CSc Graduate Committee, through the Graduate Advisor, will ask the student for more information in cases of doubt, and will consult with experts in the department as it deems appropriate. This first approval step must be completed by the end of the second term of the PhD program.

**Step 3:** The Graduate Committee will be the final arbiter of whether courses taken and marks obtained satisfy the requirement. The breadth requirement must be completed within five terms of the student's initial registration as a PhD student, and in any case, before the student graduates, although it need not be completed before other checkpoints (e.g. before the Candidacy Examination). The Graduate Studies Committee is empowered to vary all specific time constraints listed in these regulations for students in special situations, after a written request is received, together with the supervisor's support. The Committee will do so only after giving appropriate consideration to the individual case, as long as the decisions are consistent with the aim that the breadth requirements should be completed as early as convenient in the program.

3.3. PhD Candidacy Examination  (NEW: CSC 693 - in effect September 2010)

The Candidacy Examination is a requirement of the Faculty of Graduate Studies for every PhD program at UVic and cannot be waived by any department. However, the precise form, content, and administration of such examinations are determined by individual departments.

Each student must pass the **CSC 693** within two years of first registering as a provisional doctoral student and at least six months before the PhD dissertation is defended in an oral exam. A PhD student should be registered in CSC 693 from the start of the program. After passing CSC 693, a student should register in CSC 699. At any given time in the program, a PhD student should be registered in either CSC 693 or CSC 699, but not both.
The main purpose of the candidacy examination is to test the student’s understanding of material considered essential to completion of a PhD and the student’s competence to do research that will culminate in the PhD dissertation. There are a number of other objectives to be considered when preparing for the Candidacy Examination (listed without priorities).

- To educate the Supervisory Committee so that they are better prepared to guide the research and make helpful suggestions.
- To ensure that the student is aware of and has considered the important background material in the area.
- To ensure the student understands and can communicate descriptions of the problem(s) and the significance.
- To communicate amongst students and the committee expectations regarding what might constitute research worthy of a PhD dissertation. To resolve any conflicts between parties on expectations early on, instead of after the research has been completed.
- To protect the student from overly high expectations which result in staying too long in the program in order to benefit the research program of the supervisor.
- To ensure the student has realistic expectations of the amount of work which needs to be accomplished. The written material of the proposal can be reused as a starting point for a dissertation.
- To ensure the student has selected problems of an appropriate difficulty (not way too hard or way too easy) and has a proposal which should lead to a PhD.
- To clarify short and long term research goals and identify steps which can be taken to start making progress on the research.
- To enable the committee to make suggestions which can provide guidance for the research or to ask questions that may be relevant, but are not being considered.
- To introduce formally the candidate to the committee and the committee to the candidate.

3.3.1. Procedures for the Candidacy Examination

While there may be wide variety in the content of candidacy examinations, all such examinations must be consistent within each department. Factors that must be consistent are the manner in which the examinations are constructed, conducted and evaluated. Departments are responsible for ensuring this consistency. The steps normally expected to be followed are:

1. The candidate is required to submit a short written research proposal to the Supervisory Committee at least 2 weeks before the arranged date of the examination.
2. The research proposal should follow the normal standards for the field, including statements of the problems, new ideas and their feasibility, methodology of research, milestones and expected results, plans for experiments, background and previous work of others. The content and length of the proposal is negotiable with the Supervisory Committee, but it is normally comprised of no more than 5 pages for the proposal of new research plus an appropriate number of pages for the background (similarly to a grant proposal).
3. On the day of the examination, the candidate is required to make a short (15-20 minute) presentation to the Supervisory Committee. The presentation is to be followed by an oral examination.
4. To pass the candidacy, the committee must be satisfied that: the research proposal forms a viable basis for a PhD dissertation, and the candidate is sufficiently informed in the field of research that has been proposed. The evaluation is based on: (i) the written proposal; (ii) the presentation; (iii) the oral examination.
5. If the committee is not satisfied, they may request that the candidate re-take the examination, provided that the examination is held within the two years specified by the regulations of the Faculty of Graduate Studies.
6. When a student has successfully completed the candidacy examination(s), the supervisor should inform the Graduate Secretary who will prepare a memorandum signed by the Graduate Advisor, the student’s supervisor and the Chair of the department. The memo will be submitted to the Graduate Admissions and Records Office for manual data entry to update the student’s record.

All members of the Supervisory Committee are expected to evaluate the student for the candidacy and be present at the oral examination. The supervisor must always be present. At most one other member of the Supervisory Committee may be absent from the candidacy examination.
If a member of the Supervisory Committee is unable to attend the candidacy examination, but is able to evaluate in depth the research proposal, written feedback can be collected. A substitution can be made for the exam only, after informing Graduate Studies. Appropriate questions should be posed by the temporary member on behalf of the absentee.

If a member of the Supervisory Committee is unable to participate at all in the candidacy procedure, a new member of the Supervisory Committee should be appointed.

In all cases, it is the responsibility of the student and of the academic supervisor to make sure that all evaluation aspects are properly integrated in the program. This implies that, in all cases, constructive feedback is collected and actions for future research is discussed and planned accordingly.

Upon successful completion of the Candidacy Examination, the student is automatically classified as a candidate for the degree of Doctor of Philosophy.

3.4. PhD Dissertation and Oral Examination

The Faculty of Graduate Studies states the following guidelines in the Graduate Academic Calendar regarding an acceptable dissertation for a successful PhD program.

The doctoral dissertation must embody original work and constitute a significant contribution to knowledge in the candidate’s field of study. It should contain evidence of broad knowledge of the relevant literature, and should demonstrate a critical understanding of the works of scholars closely related to the subject of the dissertation. Material embodied in the dissertation should, in the opinion of scholars in the field, merit publication.

The general form and style of dissertations may differ from department to department, but all dissertations shall be presented in a form which constitutes an integrated submission. The dissertation may include materials already published by the candidate, whether alone or in conjunction with others. Previously published materials must be fully integrated into the dissertation, while at the same time distinguishing the student’s own work from the work of other researchers. At the final oral examination, the doctoral candidate is responsible for the entire content of the dissertation. This includes those portions of co-authored papers which comprise part of the dissertation.

The student will give an oral exam of the dissertation in accordance with the departmental and university regulations. Upon successful completion of the exam and all other departmental and university requirements, the student will be awarded the degree of Doctor of Philosophy.

3.5. PhD Progress Reports

The academic supervisor is responsible for providing regular reports to evaluate progress in the graduate program. The progress report is a requirement of the Faculty of Graduate Studies and cannot be waived by any department. However, its administration is determined by individual departments.

In Computer Science, such a report must be provided to the student in a written form and a copy placed in the departmental file. The progress report should take place once in every twelve-month period in the PhD program. The report must have the input of all the members of the Supervisory Committee. The supervisor is responsible for providing relevant information and collect feedback. In case of unsatisfactory progress, the Supervisory Committee will recommend corrective action, or ask the student to withdraw from the program.
A template/form are provided as guidelines only for an effective document.  
See the department website:  [http://www.csc.uvic.ca/](http://www.csc.uvic.ca/)

### 4. The Relationship Between Students and the Supervisory Committee

In-depth explanations and detailed guidelines for the joint responsibilities towards a successful PhD program can be found in the document entitled “**Responsibilities in the Supervisory Relationship Policy**” from the Faculty of Graduate Studies website. It is important and expected that both students and members of the Supervisory Committee are knowledgeable and familiar with the document.

**Important Websites:**

Department of Computer Science (Current Students):  [http://www.csc.uvic.ca/](http://www.csc.uvic.ca/)

Faculty of Graduate Studies:  [http://www.uvic.ca/graduatestudies/](http://www.uvic.ca/graduatestudies/)

Graduate Academic Calendar:  [http://web.uvic.ca/calendar](http://web.uvic.ca/calendar)
### Appendix A: Categories for Breadth Requirement

In order to define the breadth requirements, three major categories are identified within Computer Science. Each category is subdivided into areas that represent a range of the fields of computer science, as given in the table below.

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