



Computer Science  
UNIVERSITY OF TORONTO

# DOCTOR OF PHILOSOPHY STUDENT HANDBOOK

# 2023–2024



Computer Science  
**UNIVERSITY OF TORONTO**

**Department of Computer Science Graduate Handbook  
Doctor of Philosophy (PhD) Program**

**2023–2024**

## Important Dates 2023–24

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Sept. 1	Recommended tuition fee payment deadline for students registering or starting their program in the Fall session to ensure payment is received by the registration deadline.
Sept. 7	CS cross-listed courses and seminars begin.
Sept. 11	Graduate courses begin
Sept. 15	Final date to submit PhD thesis to SGS to avoid fee charges.
Sept. 15	Registration deadline for students registering or starting their program in September. After this date a late registration fee will be assessed
Sept. 20	Final date to add Fall and 'Y' courses without an <a href="#">add-drop form</a> .
Sept. 29	Deadline to submit PhD final dissertation to SGS for November convocation
Oct. 9	Thanksgiving holiday — University closed.
Nov. 6	Last day to drop Fall courses on ACORN without academic penalty. After this date an <a href="#">add-drop form must be submitted</a> .
Nov. 6–10	Reading Week — no classes in most courses.
Dec. 21	First day of winter break — University closes.
Jan. 3	University re-opens.
Jan. 8	Graduate and cross-listed courses and seminars begin.
Jan. 12	Registration deadline for students registering or starting their program in January. After this date a registration fee will be assessed.
Jan. 15	Final date to submit PhD thesis to SGS to avoid Winter fee charges.
Jan. 19	Final date to submit final doctoral theses to SGS for March graduation ( <i>in absentia</i> ).
Jan. 22	Final date to add Winter courses without an <a href="#">add-drop form</a> .
Feb. 19	Family Day holiday — University closed.
Feb 19-23	Reading Week - no classes in most courses
Feb 20	Final date to drop Full-Year and Winter courses without an <a href="#">add-drop form</a> .
Apr. 12	Final date to submit PhD thesis for June convocation
July 1	Canada Day (University Closed)
Aug. 5	Civic Holiday (University Closed)

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## 1. What is a PhD?

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The main goal of a successful PhD is to train a researcher and prepare them for further professional development. One aspect of this training is to ensure that they have a broad and deep knowledge of Computer Science. The starting point for this aspect is the completion of the PhD course and breadth requirements. However, course work is, by design, limited to relatively narrow and well-defined assignments, projects, and exams. To be a successful PhD student, a candidate needs a much broader set of skills, including the maturity as a researcher to cope with significantly more uncertainty than is typically seen in course work. Additional skills include the abilities to evaluate the current literature, to select promising directions for future work, and to follow some of those directions through to the nuggets of new contributions. In our experience with our students, we typically see these skills develop slowly, continuing through to their graduation from our PhD program. However, our expectation is that the foundations for these skills should already be in place and evident by the beginning of the second year of PhD studies.

Specific foundational skills to be developed by a PhD candidate include these:

- (a) The ability to **apply the basic tools of the field** in potentially new ways, along with understanding what they know and what they have yet to learn.
- (b) The ability to **select significant research contributions** from a larger set of published papers, and justify that selection (for example, on the basis of the significance of the results or the novelty of the approach).
- (c) The ability to **relate the papers to one another**, and to other research in the literature.
- (d) The ability to **critique the research methods** used in these papers, including the strengths and weaknesses of these methods and likely threats to validity, whether these are acknowledged in the papers or not.
- (e) The ability to **identify limitations of the results** (and possibly errors) reported in the papers, along with their implications.
- (f) The ability to **suggest alternative approaches** to answering the research questions posed in these papers.
- (g) The ability to **identify and prioritize lines of investigation for further research**, based on an understanding of significant limitations of the research described in the papers and/or important open problems that the papers fail to answer, and also on the likelihood of being able to make progress on such issues.

This handbook describes the program requirements for the PhD program in Computer Science. These requirements are meant to ensure that our students receive regular assessment and feedback on their progress toward these goals and that our graduates meet expectations.

## 2. PhD Programs in Computer Science

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The Department of Computer Science has three PhD programs that are appropriate for students with different backgrounds. Students are assigned to one of these PhD programs upon admission. The end result of these programs is the same, namely a PhD in Computer Science.

1. **PhD-Transitioned:** Students who entered the PhD program after completing the MSc program in our department. (**PHD-T**)
2. **PhD-External Masters:** Students who entered the PhD program after completing a Masters degree in Computer Science (but not in our department) or in a related field. (**PHD-EM**)
3. **PhD-Direct Entry:** Students who entered the PhD program directly after completing an undergraduate bachelor's degree in Computer Science or in a related field. (**PHD-U**)

As described below, the degree requirements vary across these three programs due to differences in the student's prior education.

## 3. PhD Course Requirements

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### 3.1 Minimum number of courses

The **course requirement** covers the minimum number of courses required by a degree program. More courses can be taken. Students in the PhD-Transitioned and PhD-External Masters programs are required to complete at least **four** graduate half-courses, and students in the PhD-Direct-entry program must complete at least **eight** graduate half-courses. In order to obtain credit for a course, students must obtain a mark of B– or higher. (Note that where a course is cross-listed with an undergraduate course, graduate students must enrol in the graduate section to receive credit. In many cross-listed courses, graduate and undergraduate students are assessed differently.)

In some cases, students may reduce the number of courses they are required to take by requesting transfer credit for graduate courses that were completed but never used toward the requirements of another degree, diploma, certificate, or any other qualification (either at UofT or elsewhere), or as a Non-Degree Special Student. Students may request to transfer up to 1.0 Full Credit Equivalents (that is, up to two half-credit courses) to their graduate program using the [transfer credit form](#).

For students who have completed the MSc program in DCS, any graduate half-courses completed beyond the MSc course requirement (i.e., taken while the student is registered as an MSc student in DCS) can be used towards the PhD course requirement.

### 3.2 Breadth requirement

The breadth requirement for the PhD degree program ensures that students complete courses from a sufficiently wide range of topics within Computer Science.

CS courses are classified on the basis of their content into four **methodologies** and sixteen **research areas**. Methodologies are core problem-solving approaches and/or techniques and general tools emphasized in the course material, while research areas are aligned with the activities of the various research groups in the department. The methodologies and research areas are described in the boxes below.

The classification of courses is given in the course timetable on the DCS website. Not all courses (e.g., CSC 2600) qualify for breadth.

The PhD breadth requirement depends on the student's program:

- **PhD-Transitioned:** For a PhD student who has transitioned from an MSc degree in our department, the eight graduate half-courses taken over their MSc and PhD together must include courses from at least four different research areas and at least three different methodologies. In this sense, courses taken during the student's MSc are counted both for achieving methodological breadth and for research area breadth.

- **PhD-External Masters:** Students who completed a master's degree elsewhere must complete four graduate half-courses from at least four different research areas.
- **PhD-Direct:** PhD students who are entering the program directly from a bachelor's degree are required to take a total of eight graduate half-courses. These must include courses from at least four different research areas and at least three different methodologies.

### 3.3 Plan of Study and Breadth Exemption Evaluation

Before starting their degree, students must submit a [Plan of Study form](#) to the Graduate Office for approval, listing the courses that they propose to take in order to satisfy the breadth requirement. Note that not all courses are offered each year, and it is not always known in advance which courses will be offered. Therefore, it is understood that a student's proposed list of courses might need to be altered in the future. If the list of courses a student will use to satisfy the breadth requirement changes, the student must submit a revised Plan of Study form.

Graduate courses that were completed in a prior graduate program (either at UofT or elsewhere) may qualify to fulfill the breadth requirement. The optional [Breadth Exemption Evaluation Form](#) allows a student to request that graduate-level courses taken in a prior graduate program (either in another department at UofT or elsewhere) be recognized in fulfilling the breadth requirement. The assessment is done by the Associate Chair, Graduate Studies, sometimes in consultation with other faculty members. To support such a request, the student should submit evidence of the course content (e.g., a syllabus or copies of course notes), the problem-solving approach or technique used in the course (e.g., copies of assignments or exams), and proof of their grade in the course (e.g., their transcript; unofficial copies are okay) along with their Breadth Exemption Evaluation Form. Note that graduate courses taken in fulfillment of a bachelor degree's course requirement (including graduate courses from our department) do not count towards the breadth requirement. The Breadth Exemption Evaluation form should be submitted before starting their degree.

### 3.4 Courses outside Computer Science

Students are allowed to take courses offered by other departments, provided that the offering department gives the student permission to enrol and provided that the student's courses, overall, meet the breadth requirements of their degree.

A few courses offered by other departments on topics that are closely related to computer science are accepted for fulfilling breadth requirements. The current list of these courses is available [here](#). Students may propose the addition of courses to this list by contacting the Graduate Office and providing a course syllabus, grading scheme and assignments. These suggestions will be evaluated by the Graduate Affairs Committee.



## Methodologies

### Methodology 1: Analysis and Computation in Discrete Models

The courses in this grouping focus on the analysis of, and algorithms for, discrete mathematical structures, such as graphs, formal logic, and formal models of computation. The grouping includes courses that analyze computational limitations and discrete computation. These courses study and apply techniques from areas such as probability, combinatorics, algebra, mathematical programming, and formal logic.

### Methodology 2: Analysis and Computation in Continuous Models

The courses in this grouping focus on the analysis of and algorithms for continuous mathematical models. Topics include the derivation of mathematical models, their properties, and computational techniques for approximating their solution. These courses study and apply techniques from areas such as probability and statistics, computer graphics, computer vision, numerical analysis, and machine learning.

### Methodology 3: Building Software and Hardware Artifacts

This grouping includes courses that study the design and implementation of specific software or hardware artifacts. These courses expose students to the challenges in building artifacts such as computer-animated movies, computer-aided design systems, databases, network protocols and devices, and simulations of large-scale systems. Courses in this group typically have a significant project component in which students build a substantial software or hardware artifact.

### Methodology 4: Human-Centered and Interdisciplinary Computing

This grouping includes courses that study computational paradigms and methods within human-computer interaction or scientific domains outside traditional computational sciences. These courses typically have a cross-disciplinary component, involving fields such as the life sciences, linguistics, psychology, social sciences, and economics.

## Research Areas

- |                                  |   |
|----------------------------------|---|
| 1. Algorithms and Discrete Math  | 10. Human–Computer Interaction                    |
| 2. Complexity and Cryptography   | 11. Knowledge Representation                      |
| 3. Computational Biology         | 12. Machine Learning                              |
| 4. Computational Linguistics     | 13. Scientific Computation and Numerical Analysis |
| 5. Computer Graphics             | 14. Software Engineering                          |
| 6. Computer Systems and Networks | 15. Interdisciplinary Computer Science            |
| 7. Computer Vision               | 16. Robotics                                      |
| 8. Database Systems              |   |
| 9. Distributed Computing         |   |

## 4. PhD Student Supervision

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### 4.1 Supervisor

Every PhD student is assigned a supervisor (and possibly a co-supervisor) prior to registration. The supervisor advises on course selection and thesis topic selection, and provides continuing help during the conduct of research. All students are required to consult frequently with their supervisors throughout their graduate studies, to report on their progress, to ask questions, to obtain advice regarding their research, and to get approvals for plans of study and internships. When a PhD student is co-supervised, one of their co-supervisors must be identified as the primary supervisor (also known as the supervisor of record). To be the primary or sole supervisor of a PhD student, a faculty member must hold full membership in the School of Graduate Studies, with a specific graduate faculty appointment in the Department of Computer Science (i.e., a CS-SGS membership). (With approval from the Associate Chair, Graduate Studies, faculty with an emeritus appointment in CS-SGS may also supervise PhD students.) The other co-supervisor must hold full, emeritus, or associate membership in CS-SGS.

The [supervision guidelines provided by SGS](#) are an excellent resource for making the most of the relationship between a student and their supervisor. Take note of the checklists in Appendix 2 of both the Supervision Guidelines for Students and the Supervision Guidelines for Faculty. The Department of Computer Science supports the expectations stated in these guides, and we encourage students to discuss these checklists with their supervisor.

Occasionally the student–supervisor match is not productive. Any student who finds themselves in such a situation should discuss difficulties or concerns with their current supervisor, a member of their supervisory committee, a member of the Graduate Office (located in BA4281 or by email at [gradoffice@cs.toronto.edu](mailto:gradoffice@cs.toronto.edu)) including the Associate Director, Graduate Academic Services, or the Associate Chair, Graduate Studies. In many cases, the issues might be resolved by talking about them. Students are also encouraged to take advantage of the [resources](#) provided by SGS as well as the confidential support of the [Centre for Graduate Mentorship and Supervision](#). If no resolution can be found, students who feel a need to change their supervisor are welcome to seek advice from the Associate Chair, Graduate Studies. However, the ability to switch supervisors depends on the availability of another faculty member to serve in this role. When a change in supervisor is made, submit the [Change of Supervisor form](#) to obtain formal approval.

### 4.2 PhD supervisory committee

The purpose of the student’s PhD supervisory committee is both to aid the student by providing timely advice and to evaluate the student’s progress towards a PhD thesis.

By the end of their **12th month** of program registration, each PhD student should form a PhD **supervisory committee** consisting of at least three members, including the supervisor and, if applicable, co-supervisor. Besides the supervisor, and possible co-supervisor,

the other committee members must be associate or full members of SGS (although not necessarily in CS-SGS).

In addition, external experts can also serve on a supervisory committee as “advisors”. (This term is *not* synonymous with “supervisor”.) An advisor would normally be someone who provides special expertise that is not available within the university. Advisors can take part in all the student’s committee meetings with the following exceptions: (a) they do not contribute to a quorum, and (b) although they are permitted to attend the student’s Final Oral Examination, they cannot vote. The request for an external expert to serve as an advisor on a PhD committee can be made by e-mail to the Associate Chair, Graduate Studies, [gradchair@cs.toronto.edu](mailto:gradchair@cs.toronto.edu), accompanied by a brief rationale and CV.

The supervisory committee is chaired by a member who is neither the supervisor nor the co-supervisor. The chair is responsible for running the meetings of the committee and reporting the results to the Graduate Office.

Students should notify the Graduate Office of the formation of the PhD supervisory committee and of any changes to that committee using the [Supervisory Committee Composition form](#). Changes to the supervisory committee should only be made in consultation with the Graduate Office and all changes must be reported immediately.

## 5. Checkpoints and Supervisory Committee Meetings

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To ensure that students are making satisfactory progress in their program, a series of **checkpoints** must be passed, beginning with the Qualifying Oral Examination ([Section 5.2](#)) and ending with the Departmental Thesis Examination ([Section 5.7](#)), in preparation for the Final Oral Examination ([Section 5.8](#)).

The purpose of each checkpoint is different, and hence, it is NOT permitted to combine checkpoints. That is, the qualifying oral examination meeting may not be combined with the thesis topic approval meeting, nor the thesis topic approval meeting with the thesis proposal meeting. Distinct checkpoints should be a minimum of eight weeks apart.

**Students must meet with their supervisory committee on a regular basis.** The purpose of supervisory committee meetings is to assess the student's research progress and to provide feedback on the student's research plans for the coming year. The first supervisory committee meeting is the Qualifying Oral Examination ([Section 5.2](#)), which must be held within 16 months of the start of the PhD program. Subsequent committee meetings must be held at least once every 12 months prior to the Departmental Thesis Examination ([Section 5.7](#)). The supervisory committee may require that a student's next meeting be held earlier. Students are encouraged by SGS to schedule supervisory committee meetings every six months following their Qualifying Oral Examination to discuss their progress with their supervisory committee.

To be official and appear on their student record, a student **must schedule all supervisory committee meetings through the Graduate Office**. To schedule any departmental checkpoint, submit [the Checkpoint Scheduling form](#) to the Graduate Office at least two weeks before the meeting.

**Student preparation:** The student should prepare a paper (for a supervisory committee meeting that involves a checkpoint) or a progress report (for a supervisory committee meeting that does not involve a checkpoint) to discuss with their committee. The nature of the paper depends on the checkpoint and is described below.

Meetings of a supervisory committee may be held in person, online, or in hybrid form. A quorum is three members including the supervisor and co-supervisor (if any). If a quorum is not met, the checkpoint must be rescheduled. If quorum is met but a committee member is absent, the student should present their material to that member individually. The member should then communicate their assessment to the chair of the committee for inclusion in the committee's report.

**Committee recommendations:** After each supervisory committee meeting, the chair of the supervisory committee will provide written feedback to the student (through the Graduate Office) and the student will be invited by the Graduate Office to respond to this feedback. In addition, one of the following results will be provided:

1. **Pass:** A pass may be accompanied by constructive feedback and/or suggestions for activity in the next session(s).
2. **Conditional Pass:** The student is given one or more concrete tasks to complete by a specific deadline (no more than 12 months later). The tasks and the deadline are also communicated to the Graduate Office. The meeting chair is responsible for reporting to the Graduate Office whether or not the student has cleared the conditions by the deadline. If the student fails to clear the conditions by the deadline, their progress will be considered unsatisfactory.
3. **Fail (with the option to repeat):** The student is not considered to be making satisfactory academic progress and must hold another supervisory committee meeting within 6 months.
4. **Fail (no option to repeat):** The committee recommends that the student must either withdraw from the program or have their registration terminated. This result is possible only for students who were not considered to be making satisfactory academic progress prior to the meeting. The Associate Chair, Graduate Studies will review such a recommendation.

## 5.1 Deadlines

There are different deadlines for achieving the checkpoints for each of the PhDs. To remain in good standing, students must achieve the milestones within the stated number of months in the program. To avoid delays caused by scheduling and other problems, it is a good idea to plan to pass the checkpoints significantly earlier than the stated deadlines.

**PHD-Transitioned (completed MSc in Department of Computer Science at U of T)**

Checkpoint	Months in Program
Submit Plan of Study and Breadth Evaluation (if needed)/Request Credit Transfer	1
Form Supervisory Committee	12
Pass Qualifying Exam	16
Supervisory committee with Thesis Topic Approval	28
Achieve candidacy (completed Qualifying Exam, Thesis topic approval, and 8 courses which meet breadth requirements, including those taken during MSc)	28
Supervisory Committee Meeting with Thesis Proposal Approval	34
Departmental Exam	40
Final Oral Exam	42

**PHD-External Masters**

Checkpoint	Months in Program
Submit Plan of Study and Breadth Evaluation (if needed)/Request Credit Transfer	1
Form Supervisory Committee	12
Pass Qualifying Exam	16
Supervisory committee with Thesis Topic Approval	28
Achieve candidacy (completed Qualifying Exam, Thesis topic approval, and 4 courses which meet breadth requirement)	28
Supervisory Committee Meeting with Thesis Proposal Approval	39
Departmental Exam	45
Final Oral Exam	47

**PHD-Direct entry (PhD-U)**

Checkpoint	Months in Program
Submit Plan of Study and Breadth Evaluation (if needed)/Request Credit Transfer	1
Form Supervisory Committee	12
Pass Qualifying Examination	16
Supervisory Committee Meeting with Literature Review	28
Supervisory Committee Meeting with Thesis Topic Approval	40
Achieve candidacy (completed Qualifying Exam, Thesis topic approval, and 8 courses which meet breadth requirements)	40
Supervisory Committee Meeting with Thesis Proposal Approval	51
Departmental Exam	57
Final Oral Exam	59

**5.2 Qualifying Oral Examination**

The Qualifying Oral Examination must be held **within 16 months** of the start of the PhD program. Note that the student must have formed the PhD supervisory committee and have had it approved at least several weeks in advance of this exam.

**PhD-External Masters and PhD-Transitioned** students, working with their supervisor, should select 5–10 research papers to be emphasized at the Qualifying Oral. These should be important papers in one research area of relevance to CS. This research area need not correspond to the student's eventual choice of PhD topic — students need not be committed to a thesis topic at this stage. In relation to the selected papers, the student will be examined on the points (a) through (e) listed in [Section 1](#). It is expected that students will have read and understood more than just the selected papers, but it is not expected that the student master the majority of the relevant literature at the time of this exam.

In order to help focus the initial questioning, the student will prepare a short position paper (about 4,000 words or 8 single spaced pages in a reasonable font) on points (c)–(e), as outlined in section 1 above. If the student has begun to investigate this area themselves, then they are welcome to briefly describe their progress so far. In addition, it is the stu-

dent's option to discuss the expected overall scope of the questioning with their supervisory committee prior to the exam. This paper should be submitted to their committee in at least one week in advance of the meeting.

**PhD-Direct Entry** students should prepare a research paper demonstrating their ability to do independent work in reviewing the relevant literature, identifying a problem in a research area, organizing existing concepts, suggesting and developing new approaches to solving problems in a research area, and reporting the results. The standard for this paper is that it could reasonably be submitted for peer-reviewed publication. A typical research paper is 10,000–15,000 words or 15–30 single-spaced pages in a reasonable font. This paper should be submitted to their committee in at least two weeks in advance of the meeting.

At the beginning of a Qualifying Oral Examination, the student will give a 15–20 minute talk about their paper. This will be followed by one or more rounds of questioning by their supervisory committee. During this questioning, it is critical that the student demonstrate an understanding of CS tools and techniques that are relevant to pursuing research in the area.

### 5.3 Literature Review

**PhD-Direct-Entry** students, working with their supervisor, should select 5–10 important research in one research area of relevance to CS. It is expected that students will have read and understood more than just the selected papers, but it is not expected that the student master the majority of the relevant literature at the time of this exam. The student will prepare a short position paper (about 4,000 words or 8 single spaced pages in a reasonable font) on points (c)–(e), as outlined in [Section 1](#). This paper should be submitted to their committee in at least one week in advance of the meeting. Students will also give a 15–20-minute talk about their paper and will be questioned by their supervisory committee.

### 5.4 Thesis Topic Approval

A thesis topic needs to be sufficiently broad enough to form the basis of the thesis, and it should be plausible that the student will be able to complete a thesis on the topic within the remainder of time for their degree. A student may still decide to switch thesis topics after achieving candidacy without affecting their candidacy; however, the student will need to clearly describe their new thesis topic to their supervisory committee members and have it approved during the next meeting of the committee.

To obtain their thesis topic approval, the student should submit a written description of their thesis topic to their committee at least one week before the supervisory committee meeting. This document should:

1. describe the scope of the proposed research;
2. explain its context with respect to the current literature (see items (a)–(g) in [Section 1](#)); and
3. provide an initial research plan.



The committee may approve the topic proposal as is or on condition that revisions be made under the supervisor's direction; or the committee may require the student to repeat the Thesis Topic Approval checkpoint. In the event of a second unsatisfactory attempt, the committee may recommend that the student must either withdraw from the program or have their registration terminated.

## 5.5 Candidacy

A PhD student is said to have achieved *candidacy* when they have completed all the requirements of their program except for the dissertation. (At some other universities, this is called “all but dissertation” or “ABD”.) SGS requires that PhD-External Masters and PhD-Transition students achieve candidacy within the first 36 months of their program, and PhD-Direct Entry students within the first 48 months.

Achieving candidacy involves:

1. completing all required courses and satisfying breadth requirements ([Section 3](#));
2. successfully passing the Qualifying Oral Examination ([Section 5.2](#)); and
3. having a thesis topic approved at a meeting of the student’s supervisory committee ([Section 5.4](#)).

Students who do not achieve candidacy within the required time may be terminated from the program. Requests for an extension will be considered in exceptional circumstances.

## 5.6 Thesis Proposal Approval

The **thesis proposal approval** is a meeting of the supervisory committee at which the student’s plan for the overall scope of the eventual thesis is considered for approval. In preparation, the student should submit a written proposal to the supervisory committee, at least one week before the meeting, that:

1. outlines both the completed and anticipated the results of the thesis;
2. demonstrates that a substantial portion of research has been successfully completed; and
3. provides a clear plan for completing the remaining research.

Typically, a thesis proposal is a draft of a substantial portion of the dissertation itself, along with a clear description of the remaining work to be completed. The supervisory committee assesses the scope and relevance of the problems the student has to solve in the proposed PhD dissertation. The thesis proposal is typically completed 6–12 months prior to the Departmental Thesis Examination.

### **Legacy System for PhD Supervisory Committee Meetings**

PhD students who enrolled in their program **before 1 September 2015** and who are maintaining regular meetings with their supervisory committees may continue with the previous PhD checkpoint system. Alternatively, they may opt into the present system for supervisory committee meetings, as described above. However, if a student under the legacy checkpoint system fails to have a committee meeting for 18 months or more, they will be automatically placed into the new system. PhD students in the legacy system must complete progress monitoring reports prior to each checkpoint. These reports will be reviewed by the student's supervisory committee.

Direct-Entry PhD students who enrolled before 1 September 2023 may choose to follow the timeline and requirements in the 2022–2023 PhD Handbook. Specifically, such students may have their Qualifying Exam consist of a literature review (like PhD-External Masters and PhD-Transitioned students) and have their second supervisory committee meeting within a year of passing their Qualifying Exam. A student who enrolled before 1 September 2023 and has yet to complete their Qualifying Exam must specify whether they will follow the timeline and requirements in the 2022–2023 or 2023–2024 PhD Handbook when they schedule their Qualifying Exam.

## **5.7 Departmental Thesis Examination**

At the Departmental Thesis Examination, the student defends their dissertation before their supervisory committee. Other members of the department are also invited. A draft of the dissertation should be available to the committee members three to four weeks in advance of the examination. Each member of the committee is expected to read the dissertation in sufficient detail to form a judgement about its acceptability.

In the examination, the student presents an overview of their dissertation, in 20 minutes or less, with an emphasis on the novel aspects and contributions. The committee members then question the student in as many rounds as necessary.

Unlike other checkpoints, the student's presentation and committee questioning of the Departmental Thesis Examination are open to all members of the department, and students are encouraged to attend. (Exams are announced a week or two before the event.) The committee's deliberations, both before and after the presentation and questioning, remain private and confidential. A protocol for handling this in online meetings is sent to the committee chair in advance of the meeting.

The committee may approve the dissertation as is or on condition that revisions be made under the supervisor's direction; or the committee may require the student to repeat the Departmental Thesis Examination. In the event of a second unsatisfactory attempt, the committee may recommend that the student must either withdraw from the program or have their registration terminated.

## **5.8 Final Oral Examination at the School of Graduate Studies**

Upon the successful completion of at the Departmental Thesis Examination and any required revisions to the dissertation, the candidate will be ready to go forward to the Final Oral Examination (FOE) at the School of Graduate Studies.

The Examination Committee of the FOE consists of one to three members of the student's original Supervisory Committee, and at least two examiners who have not been closely involved in the supervision of the thesis, including an external appraiser approved by SGS and one or two members of SGS, from DCS or other departments of the university. Quorum is 4 voting members, with at least two who were not part of the supervisory committee. The FOE is chaired by a non-voting member appointed by SGS from another department of the university. The external appraiser must be at arm's length from both the student and the supervisor(s). Normally, this will exclude anyone who has served as Masters or PhD Supervisor/Supervisee of the Candidate or the Supervisor or has, in the past six years, been a departmental colleague of the Candidate or the Supervisor, or has collaborated on a research project, scholarly work or publication, with either of them. SGS qualifications for external appraisers can be found [here](#). The SGS Vice Dean, Students will assess whether the nominee is at arm's length.

The Supervisor is responsible for finding an external examiner, requesting approval from the Graduate Chair, and scheduling the Final Oral Exam once the external examiner is approved by SGS. Approval of the external examiner may take up to **two weeks**. When this is complete, the supervisor needs to communicate this information to the student who will submit the [Final Exam Scheduling form](#). This will start the scheduling process with SGS. **The exam must be scheduled at least 8 weeks after the form has been submitted.** Moreover, SGS is under no obligation to find a chair for the FOE if less than six weeks' notice is provided; and without a chair, the exam cannot proceed. The exam date and time must not be changed once it has been scheduled, except with the permission of the SGS Vice-Dean, Programs, typically only for illness or extenuating circumstances. Please contact the CS graduate office immediately if such circumstances arise.

**At least 8 weeks before the exam**, the student must submit a copy of the thesis to the Graduate Office Graduate Office (located in BA4281 or by email at [gradoffice@cs.toronto.edu](mailto:gradoffice@cs.toronto.edu)) so that it can be sent to the External Appraiser and the committee. If the supervisor is sending the copy to the examiner and committee, the supervisor must copy the grad office on the distribution email. Students may not have any contact with the external examiner until the exam.

**You must allow 10 weeks for the complete process.** This time is required for SGS to approve the external appraiser; for the external appraiser and other new committee members to read the dissertation; and for the external appraiser to write a detailed report that is received by the student **at least two weeks before the exam**. Once the student has received the report, the student can prepare any necessary rebuttals or answers to the appraiser's questions.

All forms and instructions are available on the [DCS forms web page](#). Full FOE details and regulations, including details of how the exam is conducted and hence how to prepare for it, can be found on the [SGS website](#).

## 5.9 Graduation

Following the completion of the Final Oral Exam and the submission of the final dissertation with any corrections or revisions as required, to the [Electronic Thesis Database](#), SGS will submit a Recommendation for Degree Completion and the student's name will be added to the convocation roster. A graduation package will be sent to the student from the Convocation Office regarding convocation dates, receiving diplomas, and reserving tickets.

## 6. Timelines, Deadlines, and (Un)Satisfactory Progress

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### 6.1 Time Limit to Degree Completion

There are **two** program time limits. The **departmental** time limit refers to the amount of time that a student receives guaranteed funding from the department. **SGS** time limits refer to the amount of time that a student may register in their program.

Program	Departmental guaranteed funding period	SGS time-limit for degree
PhD-T	43 months	72 months
PhD-EM	48 months	72 months
PhD-U	60 months	84 months

In exceptional circumstances, a PhD student who does not complete all the requirements for the degree within the SGS time limit may be considered for a maximum of four one-year extensions, bringing the final limit to 10 years for the PhD-T and PhD-EM programs and 11 years for the PhD-U program.

Students who have serious health problems or personal circumstances that prevent them from making satisfactory progress are entitled to take a leave from graduate studies. Such a leave effectively stops the clock for funding and time to degree completion; on return, the student is entitled to resume at the point where they left, without penalty.

### 6.2 Deadlines are serious

Students who fail to meet the deadlines for the checkpoints and progress reviews will be considered to not be making satisfactory academic progress. Students who anticipate being unable to schedule a committee meeting before the deadline should contact the Graduate Office as soon as possible. See also the SGS General Regulations section on [Degree Regulations for Doctoral Degrees](#); and specific program requirements for Computer Science in the [Programs by Graduate Unit](#) section of the SGS Calendar.

Students should notify the Graduate Office of all scheduled committee meetings **at least two weeks in advance** of the meeting, so that the appropriate forms and the student record can be sent to committee members. If the Graduate Office is not notified of a checkpoint meeting in advance of the meeting, it will not be official and will not count in the student's progress.

### 6.3 Unsatisfactory progress

A student who fails a course or a checkpoint meeting, who misses a second consecutive deadline, or who is not moving forward in research is considered to be making unsatisfactory progress. This can have serious consequences. A student who is making unsatisfac-

tory progress may lose all or part of their Departmental Fellowship. A student who continues to make unsatisfactory progress may be offered the option to either withdraw from the program or have their registration terminated (see [SGS information on termination](#)).

#### **6.4 Dropping down to the MSc Program from the PhD Program**

Students in the PhD-Direct Entry and PhD-External Masters programs may choose to drop down to the MSc program, in which case they will be required to complete the standard MSc program requirements (namely, the MSc course breadth requirements along with the MSc research paper. The student's guaranteed funding period will be reduced to 17 months, the limit for the MSc program. If the student has been funded for more than 17 months, their funding will be terminated. A [Program Transfer form](#) must be submitted to make the switchover official in the last semester prior to graduation. International students who drop down are encouraged to do so and complete the MSc requirements in the summer session in order to avoid the higher fees for international MSc students that are charged in other sessions. PhD students who drop down and complete the MSc requirements in less than four sessions of registration will be required to pay the [balance of degree fees](#).

## 7. Forms, Fees, and Administrative Procedures

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DCS and SGS forms for all common requests are available [here](#).

### 7.1 Adding and dropping courses

Students may enrol in courses for the 2023–24 Fall and Winter sessions starting on 25 July on [ACORN](#). The last day to add courses for the Fall session is 20 September and for the Winter session is 22 January; after these dates, an [add-drop form](#) is needed to enrol in courses. For the Fall 2023 term, courses may be dropped in ACORN until Nov. 6, and for the Winter 2024 term, Feb 20. After that, a drop form is required to petition that the drop be done without penalty.

### 7.2 Registration and fees

Students are considered to be registered as soon as they have paid the minimum tuition and incidental fees, or have made appropriate fees arrangements. The registration deadline for students registering in the 2023 Fall session is 15 September; after this date a late registration fee will be assessed.

#### General fee information:

- Fee schedules are available on the Student Accounts [website](#) and students may pay fees as soon as their invoice is updated on [ACORN](#).
- UHIP charges for international students are included on their fees invoice.
- Students wishing to make a fees payment from **outside of Canada** may choose one of the fee payment options outlined on the [Student Accounts](#) website.
- While students with outstanding severe conditions will be blocked from requesting registration without payment on ACORN, they can still pay fees at the bank. The payment will not change an INVIT status to REG.
- Continuing students with outstanding conditions from the previous year, who have allowed their registration to lapse, or have met their candidacy or program time limit, do not have an INVIT created for the session and will not be able to pay fees until conditions are cleared.

**Arrears:** Students with arrears — that is, fees owing from prior sessions — are not eligible for Fall registration until they have paid their outstanding balance in full. Students are encouraged to clear their arrears early and seek prompt advice from the [SGS Financial Aid and Advising](#) team if they are unable to make full payment before the final day to register.

**Requesting to register without payment:** Students can request to register without payment (tuition fee deferral) via [ACORN](#) if they have no outstanding fees from a previous session and are the recipient of one of the following awards and it exceeds the Minimum Payment to Register amount on their invoice:

- OSAP loan;
- Other provincial government loan;
- U.S. government loan;
- University funding package (major award, research stipend, or teaching stipend).

However, if a student is receiving a major award, research stipend, or teaching assistantship which is not part of a funding package, or requesting to register without payment after the registration deadline, the [Register Without Payment \(Fee Deferral\)](#) form must be used.

Fee deferral only defers the payment of tuition. Students with a funding package will have a part of that package automatically applied to their tuition charges by the university. Students who defer their tuition who are not receiving one of these payments (generally University of Toronto Fellowships, NSERC, or OGS/QEII), will have to arrange for payment themselves. Policies about deadlines to pay tuition after a deferral are outlined on the form. Failure to pay the full invoice amount by the deadline will result in accrual of interest charges and a block on register for the next academic year.

**Final year doctoral fees:** Full-time students in the final year of their doctoral program pay a prorated tuition fee based on the full-year tuition fee for their program (i.e. number of months registered times one-twelfth of the annual fee). Incidental and ancillary fees are prorated on a whole-term basis in the Fall and Winter. Fees are based on the date of final thesis submission to SGS, not the date of the defence.

Doctoral students who complete all degree requirements (i.e., defend and submit to SGS a final dissertation with all corrections and modifications approved) by **15 September** do not pay fees for the September session. After 15 September, and the 15th of every month thereafter, a monthly fee is charged for each month the degree requirements are not completed.

Doctoral students will be billed for the annual fee but may choose to pay: (1) the full fee, (2) the minimum first payment, or (3) the fee based on the expected date of completion. If a student pays less than the full-year fee, a monthly service charge will be applied to any outstanding balance, starting 15 October. When degree requirements are complete, the Student Accounts Office will adjust the fees accordingly, including service charges to outstanding balances that have accrued since 15 September.

### 7.3 Personal Time Off Policy

The Personal Time Off Policy allows full-time MSc students to take up to 15 business days per academic year (Sept–Aug) in personal time off, in addition to statutory holidays and days designated as University closures or holidays. Students who are enrolled for only part of the academic year (for example, because of a leave of absence), will have their allowable personal time off pro-rated. This will not result in any changes to registration or



funding. The time off is not mandatory. See the [SGS Personal Time Off Policy](#) and [Understanding Personal Time Off](#) for more information.

A student must consult with, and receive approval from, their supervisor in advance of the time off. The time off must not compromise student research, coursework, overall progression through the curriculum, or deadlines. This time-off only applies to the students' academic program, and not their obligations as teaching assistants (which are regulated by the CUPE 3902 Unit 1 Collective Agreement) or other research assistant/casual work. Students are solely responsible for documenting time-off information and keeping their annual record for the duration of the program.

#### 7.4 Leaves — internship, personal, medical, and parental

**Personal, medical, and parental leaves:** Students requiring immediate time away from their studies for personal, medical, or parental leave should notify the Graduate Office as soon as possible. (See “How to request a leave” below.)

**Paid parental leave:** (1) If the supervisor is supporting the student from an NSERC, CIHR, or SSHRC grant, then the student may be entitled to continued support for up to 12 months while on parental leave (in addition to the amount of the grant); see [the Tri-Agency Financial Administration guide](#) for details. To apply for this support, contact the Graduate Office. (2) The student may be eligible for an SGS Parental Grant for two or three sessions; see the [SGS Parental Grant webpage](#) for details.

**Internship leave:** Internships are not a component of the research programs in the Department of Computer Science. However, they are recognized as an important experience for our graduate students.

It is important to notify the Graduate Office well in advance of taking up an internship (see table below). Failure to meet these deadlines may mean paying back tuition and funding package supports. If there is a substantive reason why a student is unable to meet the notification deadline, contact the Graduate Office.

Session	Notify the Grad Office of intention to take leave by
Summer (May–August)	10 February
Fall (September–December)	30 June
Winter (January–April)	15 October

**How to request a leave:** Students may request an official leave of one to three sessions by completing an SGS [Request for Leave of Absence form](#), and submitting it to the Computer Science Graduate Office with a brief statement of the reasons that the leave is requested. The statement must be signed by the student and the supervisor. Students who are applying for a parental leave and want to be considered for an SGS Parental Grant

should also submit an [SGS Parental Grant application](#).. However, they may request an admission deferral for up to 12 months. Students requesting admission deferral should contact the Graduate Office to request approval.

**Note:** SGS does not distinguish between personal and internship leaves. Leaves are always granted for an entire session and cannot be prorated to months or weeks. If a leave is outside of a normal academic session, please consult with the Graduate Office (located in BA4281 or by email at [gradoffice@cs.toronto.edu](mailto:gradoffice@cs.toronto.edu)). If a leave is taken without approval from the Graduate Office, the student will not be protected from the financial and program-progress implications.

**How is time to completion affected by a leave of absence?** For approved leaves, the remaining funding, the remaining components of the program, and the time-to-completion for the degree will be extended by the amount of time (number of sessions) taken for the leave. This is calculated per session and cannot be prorated by weeks or days.

**How are tuition fees affected by a leave of absence?** Students who are on an approved leave of absence are not registered in the program. Since tuition and fees are assessed on a term basis (not a per course basis), students will only be charged for the terms in which they are registered. Students taking a leave of absence should note that their UTGSU health insurance is paid in two parts: Fall, and Winter (which covers insurance for the winter and summer terms). Students should consult with the grad office about how a leave of absence may affect their UTGSU and/or CUPE health insurance plans.

**How does a leave of absence affect access to university services (health insurance, access to athletic centre)?** Depending on the term the leave commences, students may have health and dental insurance. Students should consult with grad office about any questions related to this, or reach out to their insurance provider. Students on leave will not have access to university resources, with the exception of the Health and Wellness Centre if they were already using it before the leave. Students requesting a leave may pay to continue services. Fees are outlined in the leave of absence form.

**How are funding and scholarships affected by a leave of absence?** Student funding will be put on hold for the duration of an official leave. Students must notify the Graduate Office when they return from leave so that registration and funding can resume.

Agencies such as OGS and NSERC allow for medical leave. However, students on personal or internship leave must check the regulations of any scholarships that they are receiving to make sure that the agency will allow a break for work experience and deferral of payments.

A break in registration may also impact income tax calculations. Further, it may mean that any student loans will be immediately payable! Students should check with their loan agency about repayment regulations.

International students should ensure that they have an appropriate visa that will allow them to not be registered as a student while they work at an internship, and ensure that they will have health insurance coverage in this period. International students should

consult the graduate office as well as a licensed immigration advisor (such as at the [Centre for International Experience](#)). Failure to do so may have severe implications on immigration status as well as financial ramifications.

## 7.5 Appeals

Graduate students may appeal substantive or procedural academic matters, including grades, evaluation of program requirements, decisions about the student's continuation in any program, or any other decision with respect to the application of academic regulations and requirements to a student ([SGS General Regulation 10](#)). Students may not appeal admissions decisions, fees, or the voluntary withdrawal from a graduate program.

With the exception of the Final Oral Examination, appeals are first initiated within Department of Computer Science, with the [Graduate Department Academic Appeals Committee](#) (GDAAC). Academic appeals are heard only from students who are currently registered in the School of Graduate Studies or who were registered at the time the ruling or action was taken. Students must file an appeal within eight weeks of the initial decision being made. For 2023-2024, the chair of the GDAAC is [Prof. Igor Gilitschenski](#).

Students must first attempt to resolve the matter with the instructor or other person whose ruling is in question. Should the matter not be resolved with that person and should the student wish to pursue the matter, the student must discuss the matter with the Associate Chair, Graduate Studies. Should such discussions fail to resolve the matter, the student may then make a formal appeal to the Chair of the GDAAC.

After receiving the Notice of Appeal, the Chair of the GDAAC will provide the person who made the decision being appealed with a copy of the Notice of Appeal, and request a written response. This response, along with the student Notice of Appeal will be considered by the GDAAC committee. The GDAAC committee will make a recommendation to the Chair of the Department, who will render a decision. See the [GDAAC Guidelines](#) and the [appeals policy](#) in the General Regulations in the *SGS Calendar* for further information.

The decision resulting from the GDAAC may be appealed to the Graduate Academic Appeals Board ([GAAB](#)). The decision of the GAAB may be appealed to the [Academic Appeals Committee](#) of the Governing Council.

## 8. Important links

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### Administrative/Handy Links

SGS GradHub: resource to help students find essential information they need at every phase of their graduate student journey: <https://www.sgs.utoronto.ca/gradhub/>

HR Self-service, to access payslips (choose Employee Self-Service – ESS): <https://people.utoronto.ca/hr-service-centre/>

Quercus (the online learning management software): <https://q.utoronto.ca/>

Self-Enrolment for UTOFMA (University of Toronto Multi-Factor Authentication): <https://isea.utoronto.ca/services/utormfa/self-enrollment/>

International Portal: info on immigrating and studying in Canada (SIN, taxes, Health insurance, etc.): <https://www.sgs.utoronto.ca/international-portal/before-you-arrive/>

UTGSU (University of Toronto Graduate Student Union): <https://utgsu.ca/>

Health and Dental Plan: <https://utgsu.ca/health-and-dental/>

Local 3902 (CUPE 3902): <https://www.cupe3902.org/>

CUPE Benefits plan: <https://www.cupe3902.org/unit-1/benefits/>

### Health and Wellness

Health & Wellness: <https://studentlife.utoronto.ca/department/health-wellness/>

MySSP: <https://mentalhealth.utoronto.ca/my-student-support-program/>

Employee and Family Assistance Program (EFAP) – <https://people.utoronto.ca/employees/efap/>

### SGS Supports for Program Progress and Mentorship

Graduate Centre for Academic Communication: <https://www.sgs.utoronto.ca/resources-supports/gcac/>

Centre for Graduate Mentorship and Communication: <https://www.cgms.utoronto.ca/>

Centre for Graduate Professional Development: <https://www.sgs.utoronto.ca/resources-supports/cgpd/>



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