

Graduate Program Handbook

Computer Science

University of Minnesota
2017-2018

INTRODUCTION

This handbook is intended to provide information for computer science graduate students and their advisors on departmental policy. Its users are expected to know [Graduate Education Policy](#), and University policy as it pertains to their role as graduate student or advisor. Required [graduate school](#) & [department forms](#) will be referenced throughout the handbook. Valuable information about the graduate faculty, their research interests, and current research facilities are not included in this handbook, but can be found on the department website: www.cs.umn.edu.

Information in this document is intended for students admitted to the Graduate Program in Computer Science. While information in it may interest those applying for admission, it is not intended to present information pertinent to the admissions process. Every effort has been made to present this material in an accurate manner. Any error or ambiguity will not affect or change the rules and processes of the Graduate School, University (GSSP), College or department.

DIRECTOR OF GRADUATE STUDIES (DGS)

The Director of Graduate Studies (DGS), oversees all aspects of graduate studies for active, enrolled students. Professor Abhishek Chandra is the DGS for the 2017-2018 academic year. The Graduate Academic Advisor serves as the first point of contact for most questions.

www.cs.umn.edu/academics/graduate

Contact Abhishek Chandra:

dgs@umn.edu

Contact Academic Advisor:

csgradmn@umn.edu

The Director of Graduate Studies sees students by appointment only. Appointments can be made with the Graduate Academic Advisor at csgrad.appointments.umn.edu. The DGS's general office hours are used for instructional purposes pertaining directly to the DGS's classes only. For urgent requests, please contact the DGS via e-mail: dgs@cs.umn.edu. The main office for the Department of Computer Science and Engineering is located in 4-192 Keller Hall. All departmental forms mentioned in this handbook can be obtained at www.cs.umn.edu/resources/forms

ADVISING

All incoming PhD students should have an assigned advisor of record at the time of matriculation, if you do not please speak with the Graduate Academic Advisor (csgradmn@umn.edu).

The DGS is the official advisor of record for all MS graduate students who do not have an assigned academic advisor. Historically, after taking courses, attending seminars and engaging in one on one discussion, students become acquainted with faculty and are able to make an educated advisor selection for their academic program. Generally, plan C (coursework only) MS students maintain the DGS as an academic advisor for the duration of their program.

Only faculty with graduate education responsibilities (<https://faculty-roles.umn.edu/>) are eligible to serve as academic advisors for graduate students. The advisor-advisee relationship is a mutual relationship and an advisor must agree to advise any student. If the faculty member of the student's choice agrees, then the student will inform the department via the [Declaration of Advisor Form](#). A student may change advisors at

any time using this form.

- **PhD: may change advisors; should have a research advisor chosen by the end of their first year.**
- **MS plan A or Plan B: should have a research advisor chosen by the beginning of their second year.**
- **MS plan C, (coursework only) or MCS (professional): students are not required to have a research advisor.**

All forms that are to be signed by the DGS should be given to the Graduate Academic Advisor during office hours or via the front desk in 4-192. Unless otherwise specified all forms will be sent to the Graduate Student Services and Progress Office (GSSP) on the student's behalf.

REGISTRATION

Graduate student [registration dates](#) can be found on One Stop. Students are expected to know the [registration period](#) for each semester. Students can check their registration queue through their MyU homepage or through One Stop. Students are required to know and follow University registration deadlines.

Deadlines to Cancel/Add/Drop/Swap or change of grade and refund requests are all available at One Stop. All registration changes after the second week of class must be approved by the Director of Graduate Studies.

Graduate students must register each fall and spring semester to maintain their active status. There are a few [special registration categories](#).

Students who have not registered in each semester but wish to return must apply for readmission per GSSP regulations. Prior admission is not a guarantee for readmission. Those readmitted may be required to take additional classes and/or examinations to complete their degree. They may also be required to retake courses and/or examinations (such as the WPE or prelim oral or thesis proposal).

Students at the end of their program who need to register to maintain active status in order to complete thesis work may register for Grad 999, which is a no-fee, no-credit option. Please discuss this option with The Graduate Academic Advisor as it requires faculty and DGS support to register for it. International students must check with the International Student and Scholars Services office to see if there are any restrictions or additional paperwork needed to register for this course or any reduced course load. Registration for Grad 999 is limited to 4 uses.

Computer Science Classes

This information pertains to Computer Science (CS) classes only.

If a class is closed students may sign up on a waitlist as long as the waitlist remains open. **If a class is closed and the waitlist is closed and a student still wishes to take the class the student must show up for the first day of class.** The instructor has sole discretion regarding how many students may attend class beyond the waitlist. Many times classroom size is a limiting factor, students are advised to always have an alternative class selected in case they are not able to register for their desired class. Students are strongly discouraged from registering for more courses than they intend to take as this takes a seat from another student who may wish to take the class. If an instructor allows a student into a closed class, a permission number is needed to register. Upon e-mail approval of the instructor, the front desk will issue a permission number to the student.

DEGREE REQUIREMENTS

MASTER OF SCIENCE DEGREE (M.S.)

Plan Declaration

Plan Declaration: A student must declare their Plan Option (Plan A/B/C) by their second semester in the program. If declaring a Plan A or Plan B Option, they must also obtain consent from and declare their advisor.

Plan Changes: Changes to a Plan Option would require a petition to the DGS. The petition must provide a clear justification for changing the plan, and must be submitted by the time of submission of the Graduate Degree Plan. A change from Plan C to Plan A/B should be accompanied with a declaration of advisor. Any other change would be done in consultation with the advisor.

Coursework

The M.S. degree in Computer Science requires a minimum of 31 total credits. There are three options to the M.S. degree:

Plan A thesis

Plan B project

Plan C course work.

Students electing plan A must have at minimum 21 course credits and 10 thesis credits. Students choosing the plan B must register for plan B project research using the Plan B project course (8760). Thesis credits are not accepted for a plan B M.S. degree. The Plan C is a coursework only master's that includes project work at a significant level completed while enrolled in one or two courses. Students must have an advisor if they wish to do Plan A or Plan B but no advisor is required for the Plan C.

Of the required class credits for any plan, at least 16 of them must be Computer Science Program courses including 3 breadth courses and one credit of the CS Colloquium. All credits must be 5000 level or above, and at least 6 of the total credits must be a regular 8000 level CS coursework. It is required that these 8000-level credits be Department of Computer Science course credits.

For Plan B students, the CSci 8760 Plan B project course is considered 3 of the 6 required credits and is taken in addition to the required 3 credits of an 8000 level coursework. Plan C students must take two regular 8000 level courses.

Students may take grad level courses in a related field.

Related field is defined as non-CS courses that contribute to a student's research or career goals in a single department of the College of Science and Engineering (e.g., EE, Math, Stat, IEOR, etc.) or other closely related fields as approved by an academic advisor.

The Minor Field is defined as a minimum of 6 semester credits of coursework outside CS in a single department of the College of Science and Engineering (e.g., EE, Math, Stat, IEOR, etc.), Management, Cognitive Science and/or other related fields for a designated minor. The minor is awarded by that department and their requirements for a minor must be met in order to qualify for a minor in that field.

Requirements for a minor for Computer Science MS students are established by individual outside programs, if a student wishes to declare a minor, those requirements must be met along with the approval of the DGS from appropriate graduate program.

One credit of the Computer Science Colloquium is mandatory and must appear on a student's graduate degree plan form.

M.S. students are expected to maintain a **GPA of at least 3.25** for all courses listed on their graduate degree plan and a 2.8 GPA on all coursework taken at the University of Minnesota at the graduate level. **No course for which the student has received a grade below a C- can count towards the degree.** There is no foreign language requirement.

All requirements for the master's degree must be completed and the degree awarded within 5 calendar years after initial enrollment in the graduate program. Students who are unable to complete the degree within the time limits described due to extraordinary circumstances may submit a [time extension request](#) for consideration.

Degree Committees

An M.S. degree committee consists of **three faculty members who have formal graduate education responsibilities. Two must be from the Computer Science Program (which includes a student's advisor who serves as the chair) and one from an outside program.** The outside person typically represents the related or minor field if declared. It is the student's responsibility to discuss appropriate members with their advisor, make contact with possible committee members and establish a final committee with Graduate Student Services and Progress.

All members of an MS committee must have graduate education responsibilities (<https://faculty-roles.umn.edu/>) once members have agreed to serve, the student must submit their names on the [Examining Committee site](#). This form is routed for DGS and college approval and then sent to GSSP for final University approval. Committee members cannot be appointed until after the graduate degree plan has been approved and entered into the student's record.

For Plan B: Committee members sit for the oral examination.

For Plan A: Committee members serve as a reading committee for the thesis and approve the thesis as ready for defense. This committee also administers the final oral examination.

Plan C: No committee required.

Committee changes require notification via e-mail, outlining the change, the reason for it to the Graduate program administrator(s). The advisor should concur with the change. The student must then update committee information with GSSP through the [Examining Committee site](#) before the final exam takes place. If the Final Exam Report form has already been received by the student and/or advisor, the unavailable committee member's name can be crossed off and the new committee member's name can be written in.

Plan A

Degree Requirements

- Each student must complete 31 credits of graduate-credit coursework:
- At least 21 course credits the total of which includes:
 - 16 graduate credits from 5xxx or 8xxx courses with a CSci designator
 - 3 breadth courses (9 credits)
 - 6 credits of CSci 8000 level courses).
 - 1 credit of CSci Colloquium (CSci 8970 not included in the 6 8000 level coursework credits)
 - Other graduate-level credits to reach a total of at least 31 credits from related field.
- 10 thesis credits

All CSci courses included in the graduate degree plan must be taken A-F if the A-F grading basis is offered. All credits must be 5xxx or above. Students must maintain a minimum GPA of 3.25 on courses appearing in the graduate degree plan and no courses with a grade below a C- can be included on the GDP.

Only 3 credits of Independent study (5/8991) or directed research (5/8994) may be used towards a plan A degree without written consent of a faculty advisor and the DGS. If CS 5991 or 8991 independent study or CS 5994 or 8994 directed research credits are used, a separate sheet submitted with the degree plan must explain the nature of the research or independent study.

Committee and Thesis Defense Requirements

A student's Graduate Degree Plan must be submitted at least one semester before the Plan A thesis defense. The Plan A committee will review a student's thesis and determine when it is ready for the final oral examination. **The advisor who also serves as committee chair and the other committee members must be notified that the thesis will be delivered on a particular date, at least two weeks in advance of that date.** All members of the examining committee must then have at least two weeks to read the thesis after it has been delivered. The committee certifies that the thesis is ready for defense by signing a **Thesis Reviewer's Report**. This form is included in the [graduation packet](#) and can be requested on line any time after the graduate degree plan has been approved by the program and entered into the student's records by the GSSP office. The Thesis Reviewer's Report form should be given to the committee members for signature. The same committee will also serve as the final oral committee. The "Final Examination Report" form must be obtained from the GSSP office before the final oral examination, which is scheduled with the committee members.

The committee indicates the student's performance on this report form. The student is then responsible for bringing the form directly over to the GSSP office. The student must also supply the GSSP office with two unbound copies of the thesis, including any changes required by the committee. The Graduate School web site has information about [formatting of the thesis](#). The degree will be awarded on the last day of the month indicated on the student's Application for Degree providing that all requirements have been met.

More information on the procedures for the Final Oral Examination can be found [here](#).

Plan B

Degree Requirements

- Each student must complete 31 credits of graduate-credit coursework, including:
 - 16 graduate credits from 5xxx or 8xxx courses with a CSci designator

- 1 plan B project course (CS 8760 3 credits)*
 - 3 breadth courses (9 credits)
 - 3 credits of CSci 8000 level courses).
 - 1 credit of CSci Colloquium (CSci 89701 not included in the 8000 level coursework credit minimum)
- o Other graduate-level credits to reach a total of at least 31 credits which may include related field courses.

All CSci courses included in the graduate degree plan must be taken A-F if the A-F grading basis is offered. All credits must be 5xxx or above. Students must maintain a minimum GPA of 3.25 on courses appearing in the graduate degree plan and no courses with a grade below a C- can be included on the GDP.

Only 3 credits of Independent study (5/8991) or directed research (5/8994) may be used towards a plan B degree without written consent of a faculty advisor and the DGS. If CS 5991 or 8991 independent study or CS 5994 or 8994 directed research credits are used, a separate sheet submitted with the degree plan must explain the nature of the research or independent study.

* Thesis credits are not accepted for a plan B M.S. degree.

Committee and Project Defense Requirements

A written report describing the Plan B project must be approved by the advisor. A copy of the report should be provided to the committee members at least 1 week before the oral presentation.

A student's graduate degree plan must be submitted at least one semester before the Plan B project defense. The student and advisor should discuss appropriate members for the committee; verify that they have [graduate education responsibilities](#) and that they are willing to serve. The student should then go online to appoint them to the committee after the graduate degree plan has been approved.

This committee will serve as the final oral exam committee. The exam will include a presentation of the student's project and discussion with questions and answers. The duration of the exam will be approximately one hour. The "Final Examination Report" form should be obtained and brought to the exam.

This form is included in the [Graduation Packet](#) and can be requested any time after the graduate degree plan has been approved by the advisor, DGS and college and entered into a student's record by the GSSP office. The committee members will indicate their satisfaction or dissatisfaction with the defense by signing the form.

PLAN C

Degree Requirements

- Each student must complete 31 credits of graduate-credit coursework, including:
 - o 16 graduate credits from 5xxx or 8xxx courses with a CSci designator
 - 3 breadth courses (9 credits)
 - 6 credits of CSci 8000 level courses).
 - 1 credit of CSci Colloquium (CSci 8970)

- o Other graduate-level credits to reach a total of at least 31 credits which may include related field courses.

All CSci courses included in the graduate degree plan must be taken A-F if the A-F grading basis is offered. All major credits must be 5xxx or above. Students must maintain a minimum GPA of 3.25 on courses appearing in the graduate degree plan and no courses with a grade below a C- can be included on the GDP.

A graduate degree plan form should be submitted by the end of the third semester (or before the beginning of the last semester). The DGS will serve as the default advisor. No committee is required for this plan and therefore no exam will be necessary. However the form "Final Report Form" must be submitted to the Computer Science office to be signed by the DGS. This form is included in the [Graduation Packet](#) which can be requested any time after the graduate degree plan has been approved by the DGS, the college and verified by the GSSP office.

Only 3 credits of Independent study (5/8991) or directed research (5/8994) may be used towards a plan C degree. If CS 5991 or 8991 independent study or CS 5994 or 8994 directed research credits are used, a separate sheet submitted with the degree plan must explain the nature of the research or independent study.

Plan C Project Coursework Requirement

In addition to the above requirements, students must complete, through their coursework, a total of 100 hours of significant project work, at least one written report, and at least one oral presentation; such work may be completed individually or in group activities:

- Projects are independent research, design, development, theory, or practice activities, completed alone or in groups, and graded for credit by a faculty member authorized to teach courses for graduate credit within a course taken by the student for degree credit.
- A course project may fulfill either one-half of the requirements (a half-project of 50-99 hours of average expected effort) or the full requirement (a full- project of 100 or more hours of average expected effort).
- Ordinary assignments where all students in the class complete the same work do not count towards project credit. We define "average expected effort" as the instructor's estimate of the number of hours of effort required per student for a typical graduate student to complete a project earning a grade of B.
- It is the instructor's responsibility to indicate in the course syllabus whether the course fulfills project requirements, and if so whether the project is a half-project or a full-project. In most cases, half-project courses will be 3-credit courses where the project accounts for at least half the course grade; full-project courses will usually be independent or directed study projects taken for 3 credits (CSci 8994 is the preferred course number).
- Written reports must be at least 2000 words (or several components within the same course totaling at least 2000 words), must report either on a project (as defined above) or on some separate research effort, and may be completed individually or in groups.
- Oral presentations must be at least 5 minutes long (at least 10 minutes for group presentations), and must present research (the student's or that of others) or project work by the student.
- For a student to receive credit for a project, report, or oral presentation, the faculty member grading the project must certify the completion of that component (including whether a completed project is a half- project or full-project) and must verify that the student received a grade of B or higher on the component. The student also must receive a grade of B- or higher in the course in which the component was contained.
- Many of our graduate level courses will qualify as Plan C courses and the student should check with the instructor if it is not indicated in the syllabus but seems to contain the requisite research component.

For more information on completion procedures, please see the following web sites: [Master's Plan A](#); [Master's Plan B](#); [Master's Plan C](#).

MASTER OF COMPUTER SCIENCE DEGREE (MCS)

Degree Requirements

- Each student must complete 31 credits of graduate-credit coursework, including:
 - 16 graduate credits from 5xxx or 8xxx courses with a CSci designator
 - 3 breadth courses (9 credits)
 - 6 credits of CSci 8000 level courses).
 - 1 credit of CSci Colloquium (CSci 8970)
 - Other graduate-level credits to reach a total of at least 31 credits which may include related field courses.

All CSci courses included in the graduate degree plan must be taken A-F if the A-F grading basis is offered. All major credits must be 5xxx or above. Students must maintain a minimum GPA of 3.0 on courses appearing in the graduate degree plan and no courses with a grade below a C- can be included.

Each student needs to satisfy the departmental breadth requirement. However, none of the MS research requirements including the Plan C course project requirements, the Plan B project nor Plan A thesis of the Master of Science degree is required. There is no requirement for a final oral examination although the Final Report form must be submitted to complete the degree.

PH.D. DEGREE

Degree Requirements

- Each student must complete 31 credits of graduate-credit coursework, including:
 - 16 graduate credits from 5xxx or 8xxx courses with a CSci designator
 - 5 breadth courses (15 credits)
 - 1 credit of CSci Colloquium (CSci 8970)
 - 6 credits of supporting program coursework or 12 credits from a minor program
 - CSci 8001/8002 unless advised otherwise by research advisor
 - Other graduate-level credits to reach a total of at least 31 credits which may include related field courses from programs other than CS or courses for a graduate minor.
- 24 Thesis Credits

All CSci courses included in the graduate degree plan must be taken A-F if the A-F grading basis is offered. All major credits must be 5xxx or above. Students must maintain a minimum GPA of 3.45 on

courses appearing in the graduate degree plan and no courses with a grade below a C- can be included.

The Computer Science Department requires a minimum 31 course credits, of which 16 must be taken within the Computer Science program. Mandatory courses include 5 breadth courses and one credit of Colloquium. Credits used to obtain a master's degree may be used to obtain a doctoral degree insofar as the mandatory minimum credits within the program are met. The University has a limit of 18 credits which can be transferred in and counted towards any graduate degree program.

The PhD degree requires at least 6 credits in a supporting program or 12 credits in a minor field. A minor must also be approved by the DGS of the program from which the minor is taken.

If CS 5991 or 8991 independent study or CS 5994 or 8994 directed research credits are used, a separate sheet submitted with the degree plan must explain the nature of the research or independent study.

The Graduate School requires a minimum of 24 thesis credits (to be taken after passing the preliminary oral exam) in addition to course credits. There is no foreign language requirement for doctoral students in the Computer Science program.

The Minor Field is defined as a minimum of 12 semester credits of coursework outside CS in a single department of the College of Science and Engineering (e.g., EE, Math, Stat, IEOR, etc.), Management, Cognitive Science and/or other related fields for a designated minor. The minor is awarded by that department and their requirements for a minor must be met in order to qualify for a minor in that field. The minor must be declared before passing the Preliminary Oral Examination.

The Supporting Program is defined as a minimum of 6 semester credits of coherent coursework outside CS in a field within the College of Science and Engineering (e.g., EE, Math, Stat, IEOR, etc.), Management, Cognitive Science and other related fields. These courses should contribute to the student's research or career goals.

The doctoral [graduate degree plan](#) must be submitted before the student submits the Written Preliminary Examination Report (WPE). **The WPE, graduate degree plan and oral preliminary exam should take place no later than the student's 4th semester in the PhD program.** Students will be expected to complete the courses listed on the doctoral degree program with a GPA of at least 3.45. No course for which a grade below a C- can be counted towards the doctoral degree.

All requirements for the PhD degree must be completed by five years in the semester the student passes the preliminary oral examination. A [petition](#) may be submitted to the College of Science and Engineering to extend this time limit, an extension is not guaranteed.

Background Knowledge Requirement

Background concepts constitute a minimal core body of knowledge of which all PhD graduates in the Computer Science & Engineering department should be familiar. These concepts are required prerequisites for many of our graduate classes; students must know these concepts to succeed in these classes.

Background concepts

- **Machine Architecture and Organization.** Covers basic hardware/software components of a computer system, including data representation, machine-level programs, instruction set architecture, processor organization, memory hierarchy, virtual memory, compiling, and linking.
- **Theoretical Foundations.** Must cover *one* of the following two bodies of knowledge:
 - Algorithms and Data Structures or Formal Languages and Automata Theory.
 - **Algorithms and Data Structures.** Analysis, data structures, and algorithms, e.g.: basic algorithm analysis (recurrences, asymptotic notation), basic data structures (lists, stacks, queues, heaps, hash tables, (balanced) binary search

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Written and Oral Preliminary Examination

The Written and Oral Preliminary Examination(s) are considered the first department-wide evaluation of a student's research ability in the Ph.D. program. Students are expected to take the Written and Oral Preliminary Examination by the end of their second year in the Ph.D. program (however, with the support of their advisor, students may petition the Director of Graduate Studies for an extension).

Prior to taking the OPE/WPE students are expected to have satisfied Background and Breadth Knowledge Requirements. Students are expected to pass the two exams by the end of their third year in the program. All PhD students are requested to take the courses CSci 8001/ 8002, (Introduction to Research in Computer Science) in preparation for the WPE and OPE. Students will be enrolled in 8001 when they enter into the PhD program, upon discussion with an academic advisor if this class is deemed unnecessary they may forward e-mail approval from their advisor to the graduate coordinator and un-enroll from the class.

These courses will assist students in developing their research interests and capabilities and prepare them to begin their first major research project or survey paper.

The Written Preliminary Examination

The written report serves as a test of the student's own research capabilities, knowledge, and ability to communicate clearly and effectively in written English. **The report must consist entirely of material that is independently written by the student.** The report must be between 6-10 pages in the [ACM SIG Proceedings format](#). The following two are typical forms of WPE reports:

- **Completed research project.** A report on a research project **completed while a graduate student is at the University of Minnesota**. A (published) research paper can be attached as an appendix but can be ignored by the committee.
- **Literature review.** A careful and insightful review of research in the student's specialty. This review should demonstrate a student's understanding of key research topics and methods in the area and show that he or she can identify interesting open research problems and appropriate means to address those problems.

Exam Scope and Format

The Written Preliminary Report serves as a test of the student's own research capabilities, knowledge, and ability to communicate clearly and effectively in written English. The report must consist entirely of material that is independently written by the student and the student should be the sole author of the report. The report must be between 6-10 pages following ACM's SIG Proceedings format. A research paper can be attached as an appendix. The same committee will examine both the written report and the oral exam. The WPE paper must be sent to the members of committee and allow for two weeks for the paper to go through the review process. Once a decision has been rendered to the DGS, the student will be alerted to the outcome of the examination.

Possible outcomes of the exam

The committee may pass, pass with reservations, or fail the student. If the student fails, the committee may or may not choose to give the student another chance to pass the exam. . A student who passes the WPE may continue on to schedule the Preliminary Oral Examination A student who does not pass the WPE may or may not be given the opportunity to retake the examination depending on the decision of the WPE committee.

WPE/OPE Committee Composition

The written and oral preliminary examination committee consists of 4 individuals:

- The student's advisor who is also the chair of the committee.
- One faculty member from the Computer Science and Engineering department.
- One faculty member from outside of the Computer Science and Engineering department. This member is typically from your minor field of study or someone who has some knowledge of your research.
- One committee member appointed by the DGS from a pool of departmental faculty with departmental representative duties.

All members serving on a committee must have [Graduate Education Responsibilities](#). Occasionally an individual from an outside university or from industry with whom you have been collaborating may serve on your committee. In this case the department requires the following material to approve the outside committee member:

A short narrative regarding why this individual would be a good addition to your committee.

A copy of that person's CV.

Upon receipt of this information, the department will request approval of the committee member from the Associate Dean of Graduate Education in the College of Science and Engineering. Questions regarding this process should be directed to the Graduate Program Administrator. Once a student's committee has been determined, they will fully assign their committee members via an online portal at the graduate school website.

The committee assignment cannot be done until after you have received notification that your Graduation Degree Plan has been approved and entered into a University wide database. A student's committee must be approved by all committee members, the Director of Graduate Studies and the College.

Preliminary Oral Examination

Following the satisfactory completion of the WPE, a student may begin to find a time and date for the Preliminary Oral Examination. The Graduate Student Services and Progress office requires every student to notify them of their impending prelim oral examination and provide a link for scheduling. Once this is complete the student will receive a Preliminary Oral Examination form (these are also available for pickup at the GSSP office). This form must be taken to the examination and signed by all committee members indicating the result of the exam. Upon passing the prelim oral the student is admitted to PhD candidacy and able to register for thesis credits. Students must pass the Preliminary Oral Examination before the end of the second week of any given semester in order to register for thesis credits in that same semester; otherwise the student must register for the following semester.

Oral Preliminary Exam Scope and Format

The student will present the material contained in their written report to their committee. The committee will question the student about material in the report as well as directly related material. Questions may include subjects like methodology, alternative methods of research, ideas for future work, potential problems and obstacles. The committee is encouraged to probe the student's understanding of related material and concepts along with their understanding of the WPE material.

Possible outcomes of the exam

The committee may pass, pass with reservations or fail the student. A student must receive at minimum a 3-1 vote to pass the exam. If a student passes the examination "with reservation" the examination committee will provide in writing the conditions that must be met in order to remove the reservations within 7 days of the examination. If the student fails, the committee may choose to terminate the student or vote unanimously to allow the student to retake the examination. A student can have at most one chance to pass the Oral Preliminary Examination with the same review committee. A student must pass the exam within three years of entry to the PhD program.

More information on conducting the Oral Preliminary Examination can be found [here](#).

Relationship to a student's M.S. research (Plan A Thesis / Plan B Report)

The same piece of research can be used to satisfy both the MS (Plan A or B) and Oral Prelim requirements. If this is done, there are four possible outcomes of the exam:

- The student can pass both exams.
- The student can fail both exams.
- The student can pass the MS, fail the Oral Preliminary Examination, and be given the option to retake the Oral Preliminary Examination.
- The student can pass the MS, fail the Oral Preliminary Examination, and not be given the option to retake the Oral Preliminary Examination.

Thesis Proposal Examination

The thesis proposal examination should be taken within 1-2 years after passing the Preliminary Oral Examination. This examination should be organized around a presentation of a student's thesis proposal, but exam committee members are entitled to test the full range of a student's expertise to evaluate preparation for thesis research and the suitability of the thesis research plan. Students are required to provide a copy of the thesis proposal to the committee at least two weeks prior to the examination date of their thesis proposal.

The thesis proposal should be a self-contained document providing an overview of the student's research topic and its objective(s), prior related work, the work that the student has already completed, and the work that is being planned for the remainder of the studies. The suggested length of the thesis proposal is 25-50 pages in a format meeting the university's thesis formatting guidelines.

Committee

The committee members for the thesis proposal exam can be the same as the prelim oral exam although the departmental representative can be replaced. The student, in consultation with her/his advisor, should review the committee and verify committee membership by contacting the graduate coordinator if any changes are made.

Committee members may vote to pass, pass with reservations, or fail. **At least three passing votes are required to pass the exam. Students who fail the examination may be terminated, or may be allowed, upon unanimous recommendation of the committee, to retake the examination. No more than one re-examination is allowed and must consist of the same committee members.** The thesis proposal examination is internally administered; students should schedule the exam with their committee

and contact the front desk to reserve a space. Once you have scheduled the exam, email the graduate coordinator exam details. The Graduate Academic Advisor will send you a Thesis Proposal Examination Report Form. You must return the form with all signatures to the graduate coordinator within 24 hours of the examination.

Thesis Preparation

Once a student has completed his or her thesis, they may apply for a graduation packet through myU from GSSP. Included in the packet is the Thesis Reviewer's Report Form and the Application for Degree. **Both forms must be filled out and returned to GSSP to complete the PhD program.** Committee members should be updated to reflect who will serve as committee chair and who will serve in a reviewing capacity. Students should remember that an advisor cannot be the chair of the Final Defense Committee. Typically, a student's advisor, co-advisor, or one other CS member and the outside member are designated reviewers.

Copies of a student's thesis should be given to all members of the committee. It is important to note that all members of a student's committee read his or her thesis; although only those designated as thesis reviewers sign the form indicating that the thesis is ready for defense. **Students must notify their advisor and the other members of the committee at least two weeks in advance that the thesis will be delivered on a particular date.** All members of the examining committee must have at least two weeks to read the thesis after it has been delivered.

The reviewers must decide unanimously that the thesis is ready for defense. Upon completion of the review, designated committee members sign the Reviewer's Report form to certify that a student is ready for defense. **The Reviewer's Report form must be submitted to the Graduate Student Services and Progress Office at minimum one week before the date of a student's Final Oral Examination.**

Once a student's thesis is complete with all requested changes made, the thesis along with a cover page signed by the student and advisor must be submitted to GSSP. In signing the cover page, the advisor is certifying that all requested changes have been made. Students will then be requested to submit a thesis online. The Computer Science and Engineering department also requests that students submit one bound copy of the final thesis to the department. Directions for thesis submission along with thesis formatting instructions can be found [here](#). More involved thesis formatting instructions can be found [here](#).

Final Oral Examination/Thesis Defense

The student is responsible for [scheduling](#) the thesis defense with the committee members and notifying GSSP office at least one week prior to their defense. GSSP office will send a "Final Oral Examination Report Form" to the chair of the committee; this will not be the advisor. It is wise for the student to verify that this form was received by the Chair of the committee.

The Department of Computer Science requires all Ph.D. students to hold their final thesis defense within ninety days of obtaining the signatures of all assigned committee members on the Reviewers Report form which states that the thesis is ready for defense. Those who fail to meet this deadline must obtain the signatures of their committee members again to restart the 90 day clock.

The Graduate School has adopted a policy of open public thesis defense for doctoral candidates. This means that the final oral examination is open to the public. To ensure complete openness the Computer Science Program has adopted the following policy:

Once the readers have approved the thesis, one copy must be made available for public perusal, preferably on-line. The availability of this copy, along with the time and place of the thesis defense must be announced in writing and via electronic mail to graduate faculty and students, at least one week in advance. This announcement must contain a one-page descriptive abstract of the thesis to be defended, the name of the advisor and the URL of the thesis.

The Graduate Coordinator should be notified of the date and time of the final defense. The Coordinator will answer any last minute questions and assist in making a room reservation if needed.

Possible outcomes of the exam

The thesis defense final oral examination is Pass/Fail. It is important to note that the student only has one chance to take the final oral examination. **To be awarded a PhD degree the student must receive no more than one dissenting vote from the total examining committee.**

Post Defense

All the necessary changes in the text of the thesis must be made before it is bound. All requirements must be observed, including submitting one electronic copy of the thesis with a hard copy of the signature page with your advisor's signature to the GSSP office, before the degree can be awarded. The department also requests a bound copy of the thesis. Upon departure, the student must verify his/her address is correct on their account, submit the name of the first employer (after graduation) and return keys for their office and/or the labs.

The GSSP office has provided a document that outlines the [PhD Completion Procedures](#).

DEGREE PROGRESS AND TIMELINESS TO COMPLETION M.S. and PhD

The department believes that a Master's degree can be completed in two years and a doctorate in five years for a student enrolled full-time active status. While students are not held precisely to these time periods, students who exceed them by a substantial amount of time without progress will be required to meet with an advisor for academic review. According to the Graduate Education Policy on "Master's Degree: Performance Standards and Progress", all requirements for the master's degree must be completed and the degree awarded **within five calendar years** after initial enrollment in the graduate program. All requirements for the doctoral degree must be completed and the degree awarded **within five calendar years** after passing the preliminary oral examination. International students are responsible for contacting International Student Services and Scholar's (ISSS) office to determine timeline and requirements for graduation.

A student desiring a [time extension](#) should provide a cogent reason why the extension should be granted. Any request for a time extension should be filed **before** the time limit has expired.

Annual Academic Review

It is university policy that programs annually review the progress of all MS and PhD students. Each fall, PhD students and their advisors will be required to complete an Annual Review Assessment. All assessments will be reviewed by a faculty committee and/or the DGS and progress will be compared to institutional milestones set by the university, college and department. Those students who deviate considerably from these milestones will be discussed by the faculty as a whole. MS and MCS students will not be required to complete a review, the DGS and/or the Graduate Academic Advisor will review student progress and GPA and contact any student who appears to be having difficulty with coursework.

BREADTH REQUIREMENT M.S. and Ph.D.

The purpose of the Breadth Course Requirement is to expose students to diverse Computer Science research topics and methods. PhD students must take a total of five (5) courses with at least one course in each of the three different **breadth areas**.

PhD students must have an average GPA of 3.45 or higher for the five courses they use to satisfy the Breadth Course Requirement. Students have three (3) years to satisfy this requirement. If students want to take a more advanced course than the listed options – typically, one for which one of the listed options is a prerequisite – they may petition the Director of Graduate Studies to use this course for satisfying the requirement. Permission to do so is rarely granted but if a student has compelling reasons, it will be considered. Students may petition the Director of Graduate Studies to transfer credit for up to **two (2) courses** to use for satisfying the Breadth Course Requirement. Three courses must be taken directly from the breadth requirement list.

Master's students (MS and MCS) are required to take three (3) courses, one from each of the areas. No courses may be transferred in to meet breadth requirements. Students must maintain an overall GPA of 3.0 for MCS and 3.25 for MS for all courses on their degree program, as well as those used to satisfy the breadth requirement. Transfer courses will not count towards the breadth requirement.

All breadth courses must be taken for graduate credit and on the A-F grading basis.

Breadth Areas

Breadth Area Classes:

Theory and Algorithms

- 5302: Analysis of Numerical Algorithms
- 5304: Computational Aspects of Matrix Theory
- 5403: Computational Complexity
- 5421: Advanced Algorithms & Data Structures
- 5481: Computational Techniques for Genomics
- 5525: Machine Learning

Architecture, Systems, and Software

- 5103: Operating Systems
- 5104: System Modeling and Performance Evaluation
- 5105: Introduction to Distributed Systems
- 5106: Programming Languages
- 5161: Introduction to Compilers
- 5204: Advanced Computer Architecture
- 5211: Data Communications and Computer Networks
- 5221: Foundations of Advanced Networking
- 5231: Wireless and Sensor Networks
- 5451: Introduction to Parallel Computing: Architectures, Algorithms, and Programming
- 5708: Architecture and Implementation of Database Management Systems
- 5801: Software Engineering I
- 5802: Software Engineering II

Applications

- 5115: User Interface Design, Implementation and Evaluation
- 5125: Collaborative and Social Computing
- 5271: Introduction to Computer Security
- 5461: Functional Genomics, Systems Biology, and Bioinformatics
- 5471: Modern Cryptography
- 5511: Artificial Intelligence
- 5512: Artificial Intelligence II
- 5521: Introduction to Machine Learning
- 5523: Introduction to Data Mining
- 5551: Introduction to Intelligent Robotic Systems
- 5561: Computer Vision
- 5607: Fundamentals of Computer Graphics I
- 5608: Fundamentals of Computer Graphics II
- 5609: Visualization
- 5611: Motion and Planning in Games
- 5619: Virtual Reality and 3D User Interaction
- 5707: Principles of Database Systems

GRADUATE DEGREE PLAN FOR M.S. and Ph.D.

Graduate education policy requires every graduate student to file a [graduate degree plan](#) (GDP) for each degree for which he/she is a candidate. On the graduate degree plan the student must list:

- Completed coursework.
- Projected coursework (courses the student plans to take to complete their degree).
- Transfer coursework as approved by the director of graduate studies and/ or your academic advisor.

For Master's degree candidates, this plan should be filed during the student's third semester or before the beginning of their last semester in the program. Doctoral students are expected to file their GDP in the semester in which they submit their WPE report (typically their 4th semester in the program). Doctoral students who are interested in obtaining a Master's degree in addition to their PhD must file two separate graduate degree plans, one for each degree. Courses used to obtain the MS can be reused for the PhD except for CSci 8760 or MS thesis credits. A GDP is filled out and approved in consultation with an academic advisor. If a minor is stated on the graduate degree plan, the DGS of the minor graduate program must also approve it. The graduate degree plan then is approved by the DGS in Computer Science and the graduate education dean of the College of Science and Engineering.

Coursework

The courses listed on the graduate degree plan must only be those that qualify towards degree completion, in addition, these courses must be relevant to the subject area of the thesis or plan B paper for and provide the background and depth normally expected of a student receiving the degree for which the student is a candidate.

Only 5000 and 8000 level courses will be accepted on the degree plan. No courses for which a student has received a grade below a C- may count towards any degree. If CS 5991 or 8991 independent study or CS 5994 or 8994 directed research credits are used, a separate sheet submitted with the degree plan must explain the nature of the research or independent study. Consult with your academic advisor before registering for any class that falls outside of CS coursework or related fields as outlined by this handbook.

All courses taken from the Department of Computer Science and Engineering must be taken A-F, unless they are only offered S-N. Courses in other departments may be taken S-N. The total number of credits taken S-N cannot exceed one third of the total graded course credits on the graduate degree plan.

Any credits that qualify to be transferred to a student's degree plan must be approved before a degree plan is submitted. Only the credits transfer to a degree plan, grades don't count towards the student's GPA. Only credits from accredited schools with comparable graduate degree programs will be approved for transfer.

Credits from outside computer science may be approved for supporting program or minor program with approval. Credits transferred from other institutions must be graduate level (post baccalaureate), have been taken as graduate level work and have been taught by faculty authorized to teach graduate courses

For Master's degree programs, at least 60 percent of the coursework must be completed while registered as an enrolled graduate student at the University of Minnesota.

No more than 12 credits of coursework taken as a non-degree seeking student can be transferred to either the

MS or PhD programs. Graduate credits taken during a student's undergraduate education cannot be counted towards a graduate degree (this includes graduate level classes).

For a Graduate Degree Checklist please visit [here](#).

For information in International Transfer Coursework Review please visit [here](#).

PETITIONS for MS and Ph.D.

If a student needs to change any coursework on a Graduate Degree Plan (GDP) they can do so via a petition to GSSP. The petition form can be found [online](#). The petition should list the courses to be added and/or removed and must again be approved by the Graduate Academic Advisor, the DGS, the DGS of the minor field (if a minor has been formally declared) and submitted to the GSSP office.

COMMENCEMENT ATTENDANCE

MS and MCS graduates must be in the process of completing their final semester of coursework as listed on an approved graduate degree plan if they wish to attend commencement ceremonies.

Ph.D. graduates are expected to defend their thesis before the end of the summer of the spring in which they wish to attend commencement.

Commencement is held once a year at the end of spring semester and is hosted by the College of Science and Engineering in cooperation with several other colleges. The announcement of the commencement date and time as well as the procedure to sign up to attend will be sent to the student's university email account..

FINANCIAL ASSISTANCE

Teaching Assistantships

The Computer Science and Engineering Graduate Program provides financial support to many of its doctoral students through teaching assistant appointments. The number of such appointments is difficult to predict because of budgetary considerations and variations in enrollment. Unfortunately, not all students applying for such appointments can be accommodated.

New students are awarded teaching assistantships as part of the admissions process. **Continuing students may apply in the spring to be considered for TA positions for the next academic year.** Dates when applications for the next year will be accepted will be announced on the grads mailing list, so interested students should [subscribe](#) to that list and watch their mail. Any continuing student who did not apply last spring is welcome to submit an application for the current academic year anytime during the summer and fall. Such applications will be merged with those submitted the previous spring, and will be considered for any openings that arise during the current academic year. [TA application forms](#) are available online.

Summer Session teaching assistants are selected from among students who have served as teaching assistants in the previous academic year. These students will be notified of summer possibilities during the preceding spring semester.

Appointments are based on a number of criteria. The primary criteria are:

- Language ability and communication skills. TA applicants must be able to speak and write well, explain CS concepts clearly, relate well to students, etc. Students whose native language is not English must pass the University's English requirements prior to receiving a TA appointment. See the [Center for Educational Innovation's International Teaching Assistant](#) for more information.
- Teaching experience and quality of past TA performance. Students with superior past teaching or TA performance will be given preference in TA appointments.
- Departmental need. Each year there are a few courses for which it is difficult to find qualified TAs. Applicants with demonstrated experience in these courses will be given preference.
- Ph.D. vs. Masters: the department gives preference in TA offers to Ph.D. students. M.S. students are considered if there are no suitably qualified Ph.D. students available. (Students currently in the M.S. program who are in transition to the Ph.D. program are not considered Ph.D. students until the change is officially completed. Moreover, the department usually allows such a change only with strong faculty backing, which usually implies that the involved faculty member(s) will support the student with a research assistantship, rather than having the student rely on a teaching assistantship.) Moreover, MCS students are not eligible for CS&E TA appointments.
- Degree Progress: students making substandard progress have lower priority for TA positions. More information on the appointment process and criteria can be found in the [Graduate TA handbook](#)

Most appointments are for 50% of full time basis; some may be at 25% (or, on rare occasions, for other percentages such as 12.5%). A 50% appointment provides a 100% tuition benefit; a 25% appointment gives a 50% tuition benefit. For more detailed information please refer to the [Graduate Assistants Employment page](#). Graduate assistant salaries vary from year to year. For the salary currently in use see the section on salary ranges.

Fifty-percent (or half-time) teaching assistants (TAs) are expected to provide an average of 20 hours per week of service, and twenty-five-percent (or quarter-time) TAs 10 hours. The workload is not constant, being lighter some weeks and heavier others, such as the weeks around examinations. A teaching assistant's specific duties are assigned by the instructor. These may include, among other things, conducting laboratory or recitation sessions, assisting students with laboratory and homework assignments, grading assignments and examinations, and assisting the instructor with the preparation of course materials. In addition, depending on a TA's experience with the course materials or the particular instructor, the TA may be required to attend the lectures and/or do all the assignments.

Teaching assistants must be enrolled for a minimum of six credits each semester, except for doctoral candidates (those who have passed the preliminary oral examination for the Ph.D. degree and have completed all Doctoral thesis credits) who must enroll for a minimum of one credit (CSci 8444). There may be additional registration requirements imposed by sources external to the Graduate School and international students should check with the International Student & Scholar Services office.

International students on F-1 and J-1 visas are not allowed to be employed more than 20 hours per week during the academic year except during vacation periods. This is a regulation of the Immigration and Naturalization Service (INS), not the University of Minnesota. The INS has unequivocally stated that Assistantships are considered employment and are subject to the 20- hour per week rule.

The Computer Science and Engineering Program participates in TA training and orientation programs that are sponsored by the Center for Educational Innovation of the University of Minnesota. Teaching assistants will be notified if such programs are mandatory. Even when they are optional, students are urged to attend them.

Additional information on teaching assistantships is available in the [Graduate TA handbook](#). This includes information on the offer process and criteria that will be useful to prospective TAs, as well as rules and teaching tips that current TAs should know.

Teaching Assistantships Departmental Policy

It is the Department's policy:

1. To limit eligibility for graduate TA appointments to 6 semesters total. This is irrespective of the percentage of appointment. However, summer TA appointments are not included in this count.
2. To make as many 50% appointments as possible for the whole academic year as are consistent with budgetary prudence and the known and confidently anticipated needs of the Department.
3. To make the above appointments before the end of spring semester of the year preceding the year of appointment.
4. To save at least eight appointments for new students and make the balance from continuing students. New student appointments are made during the admission process, based on merit.
5. To allow new students not appointed to file applications for spring consideration.
6. To make summer appointments from among students who had an appointment in one of the semesters of the preceding academic year.
7. To minimize the number of combined RA-TA appointments and split assignments.
8. To enforce departmental rules regarding eligibility, total percentage of appointment, and degree progress in an objective manner consistent with the needs of the Department.
9. That the total TA/RA support from all sources not exceed 50% in any semester (including summer sessions) for anyone with a CS TA appointment. Exceptions to this policy can be granted only by the Department Head in advance under extraordinary circumstances.
10. Students who have a record of cheating not be given TA appointments.

Research Assistantships

Computer science graduate students are eligible for appointments to the position of research assistant on various research grants and contracts held by faculty members. Such appointments are recommended by the principal investigators and not by the DGS. Accordingly, students who are interested in being research assistants (RAs) should contact faculty members directly and indicate their interest in working with them on their research. Once a student has demonstrated his/her ability to contribute to the research, the possibility of an appointment can be discussed. However, most faculty members select research assistants from among their degree advisees and outstanding students in their research seminars. Research assistantships count as part of the total departmental support, and are similar to TA appointments in regards to remission of tuition. The principal investigator determines the duties of each RA.

Research assistants must be enrolled for a minimum of six credits each semester, except for advanced doctoral candidates (those who have passed the preliminary oral examination for the PhD degree and completed all 24 Doctoral thesis credits) who must enroll for a maximum of one credit (CSci 8444 PhD FTE). There may be additional registration requirements imposed by sources external to the Graduate School and international students should check with the International Student & Scholar Services Office.

Salary for Assistantships in C.S. Department

For the 2017-2018 academic year, the salary of teaching and research assistants for the period covering fall and spring semesters has been set at \$ 24.92 per hour.

Graduate Education policy requires that all RAs/TAs be registered as full time students in each fall and spring semester during which they hold appointments of at least 12.5%. It also requires that all RAs/TAs be registered for an appropriate number of credits before the end of the second week of classes. RAs/TAs who fail to properly register by this deadline will forfeit their assistantship.

Most appointments are for 50% of full time; some may be at 25% (or, on rare occasions, for other

percentages such as 12.5%). The 100% tuition benefit for graduate assistants working an average of 50% time will be the dollar value of the [Graduate School's tuition band](#) or the dollar value of the Graduate School's one-credit tuition cost depending on the student's payroll class. For a 25% appointment the tuition waiver will be a 50% waiver of the tuition cost, again depending on the student's payroll class. For more detailed information please refer to the [Graduate Assistant Employment web page](#).

Students must be aware of the policy where all non-refundable fees are the student's responsibility. **If a student cancels a class after the 100% refund deadline, the student is responsible for paying the difference. Also if a student registers for more than 14 credits in any semester, the student will be responsible to pay the tuition charged for any credits above 14 credits.** Advanced Doctoral students who register for CSci 8444 (PhD FTE) will only be allowed to register for that one credit and only that one credit of tuition will be paid by their assistantship. Students who need to register for additional credits after completing all thesis credits need to discuss their situation with their academic advisor and the graduate program coordinator.

It is the policy of the Department that the total TA/RA support from all sources not exceeds 50% in any semester for anyone with any departmental TA appointment. Violating this policy is grounds for terminating TA appointments. Only the Department Head can grant exceptions to this policy, in advance, under extraordinary circumstances. Individuals holding some fellowships may be able to hold a 25% TA position in addition to the fellowship, please speak with the graduate program coordinator for more information.

Fellowships

The College of Science and Engineering Fellowships are only available to new students and are awarded as part of the admissions process. The Graduate School offers a variety of fellowships, for more information visit the [Graduate School web site](#).

Doctoral Dissertation Fellowship

The program is allowed to nominate a limited number of candidates for [Doctoral Dissertation Fellowships](#). Nominees for these awards must be made through the department. Nominees must have passed the preliminary oral examination and have satisfied a variety of other conditions. If you would like to be nominated for this award please discuss your eligibility with your academic advisor.

Employment

Because of their special skills, computer science students may be able to obtain appointments from other departments. If a computer science graduate student receives an appointment from another department he/she is subject to the salary rates of that department. The Computer Science Program is not directly involved with such appointments and students should handle all employment related affairs directly with the department or program concerned. Students with appointments in other departments must inform the Computer Science and Engineering department during the first two weeks of classes, failure to do so may result in a loss of current and future support from the Computer Science Program.

The College of Science and Engineering (CSE) Career Center lists employment Opportunities Program for graduate students. Details are handled directly by the [CSE Career Center](#) located at Lind Hall 105.

GENERAL DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING INFORMATION

CSGSA

All computer science graduate students are automatically members of the Computer Science Graduate Student Association (CSGSA). The CSGSA holds regular meetings throughout the school year. These meetings are a forum for graduate students to voice any concerns or ideas they might have about improving the graduate program and graduate student life. The CSGSA also plans several social events throughout the year. The CSGSA has representation on several departmental committees. For more information, please see their [website](#).

Mailboxes and Bulletin Boards

Mailboxes and a copy machine are located in room 4-201 Keller Hall. [Access](#) to this room is via U card. Mailboxes are available to CS graduate students who wish to have one. These mailboxes are for University use only and no personal mail should be sent to the departmental address. All PhD and MS students will be assigned a mailbox as departmental materials are distributed to these mailboxes. All mailboxes will be set up by the 2nd week of the semester.

A good deal of information is posted on the bulletin boards outside of the Department office, 4-192 Keller Hall, and in the mailroom 4-201 Keller Hall.

Keys and Space

All computer science graduate students have access to the graduate students' computer lab (2-216 Keller Hall) and the William Munro Graduate Student Lounge (2-212 Keller Hall). These facilities are available to graduate students for their research and study. [Access](#) is available via U card.

Systems Information

All computer science graduate students are entitled to accounts on the departmental machines in the graduate computer labs. Computer Science graduate students should apply for a [CS account access](#).

Information about the departmental computing systems and staff is available [online](#). All graduate students will be automatically enrolled in the grads email alias (cscigrads@umn.edu) for departmental announcements.

The Computer Science graduate computer lab is located in room 2-216. For information about equipment located in the room, please see <http://www.cs.umn.edu/resources/facilities/labs.php>. All the other laboratories in Keller Hall are under the direction of various faculty members. Accounts on equipment in these laboratories must be arranged through the respective professors in charge of each of them.

Useful locations, hours, and phone numbers

Department of Computer Science
& Engineering Office
M-F*
4-192 Keller Hall
200 Union St SE
Minneapolis, MN 55455

8:00 - 4:30
(612) 625-4002
www.cs.umn.edu

Graduate Admissions
309 Johnston Hall
101 Pleasant St SE
Minneapolis, MN 55455

8:00 - 4:30- M-F*
(612) 625-3014
<http://www.grad.umn.edu/admissions/index.html>

Graduate Student Services and Progress Office
333 Robert H. Bruininks Hall

8:00 – 4:00 – M-F*

(612) 625-3490
gssp@umn.edu

Graduate Assistant Office
200 Donhowe
319 15th Ave SE
Minneapolis MN 55455

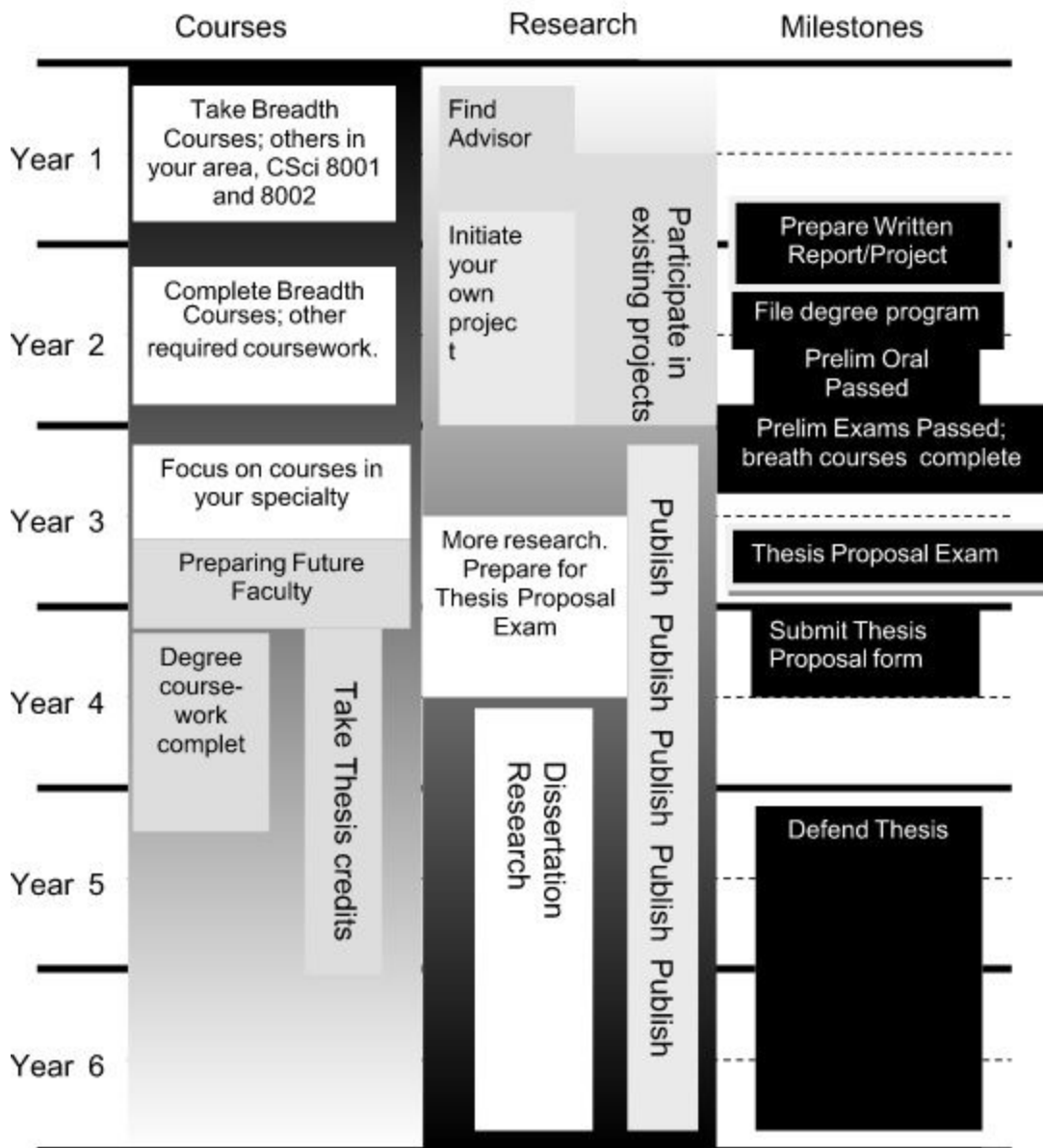
8:00-4:30 M-F*
(612) 624-7070
<http://www1.umn.edu/ohr/gae/>

*Hours subject to change

APPENDIX A - Degree Progress Guidelines

Figure 1: SUGGESTED TIMELINE FOR PHD STUDENTS. Note that most of the dates are guidelines, i.e., they are suggested, not required. The requirements for taking and passing the Written and Oral Preliminary Exams are exceptions: the exams must be attempted during the second year and passed no later than the end of the third year.

** The time frame from when the Written Report or Paper is submitted to the committee to when the Preliminary Oral Exam is passed should be no more than two months.**



APPENDIX B - Faculty and Research Areas Link

Faculty list with contact information and homepages: <https://www.cs.umn.edu/people/faculty>

Computer Science research areas: https://www.cs.umn.edu/research/research_areas

Computer Science Faculty with Graduate Education Responsibilities: <https://faculty-roles.umn.edu/>