The University of Texas at Austin
Computer Science

COMPUTER SCIENCE ON-CAMPUS PROGRAMS HANDBOOK

Master of Science in Computer Science (MSCompSci)

Doctor of Philosophy (PhD)

This handbook is for students enrolled in the PhD and On-Campus Master's graduate programs, on the path to obtaining a Master of Science in Computer Science (MSCompSci) graduate degree, thesis or coursework option, or Doctor of Philosophy (PhD) graduate degree.

Published for the 2023-2024 Academic Year

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CS Graduate Program Administration

Graduate Adviser - Greg Plaxton
The Graduate Adviser advises all CS graduate students on their courses of work and degree requirements.

Graduate Studies Committee
The GSC consists of all members of the UT faculty who are deemed qualified to supervise the dissertations of CS students and are eligible to solely supervise students in the CS graduate degree program. The Graduate Studies Committee recommends students for admission to the program, sets program-specific requirements for the graduate degrees in that area, and recommends students for admission to candidacy for degrees.

A full list of current GCS members may be found at:
https://utdirect.utexas.edu/apps/ogs/auth/gsc/nlogon/gsc_members/

Graduate Studies Committee Chair – Adam Klivans
The GSC Chair presides over all GSC meetings. All matters concerning policy and legislation affecting graduate studies should be addressed to the GSC Chair.

Graduate Coordinators – Gabrielle Bouzigard & Violet Cantu
The Graduate Coordinators are responsible for all administrative duties surrounding the graduate program and manages the day-to-day operations of program, including responding to inquiries, handling petitions, coordinating admissions, registration, student support, and maintaining graduate student files. The Graduate Coordinators can help you with many graduate program questions and refers students to the Graduate Adviser as needed. Contact gradoffice@cs.utexas.edu.

GRACS
The Graduate Representative Association of Computer Sciences represents the interests of CS graduate students within the department and the university, provides services and information to graduate students, and works to foster a sense of community among graduate students in the department. Please see: https://www.cs.utexas.edu/~gracs/

The Graduate School
The Graduate School also plays an important role in your time at the university. In addition to granting your degree at convocation and administering the rules and regulations of the university governing compliance and degree completion, the Graduate School provides academic services, administers fellowships, and works to promote graduate education at the university and beyond. Their staff includes the Dean of Graduate Studies, dean's executive staff (associate and assistant deans), dean's administrative staff, and student services administrative staff. Please see: https://gradschool.utexas.edu

Registration Information

Registration

Students register for classes through the Registrar's website during their assigned access periods every semester: https://registrar.utexas.edu/

Course schedules are posted at https://registrar.utexas.edu/schedules.

CHECK your RIS https://utdirect.utexas.edu/registrar/ris.WBX for your personal registration, payment, and add/drop deadlines. *IMPORTANT: The RIS does not distinguish between regular versus late registration times. Late registration has late fees, so be sure you register at the first opportunity!*

Registration is always a **2-step process**. You will either: Register and Pay, or you will Register and Confirm your '0' fee bill. You must do both steps or your registration will be removed after the payment deadline. To view your bill and complete registration, go to the secure "My Tuition Bill" website at: https://utdirect.utexas.edu/apps/studentfinancials/mytuitionbill/ You are not registered until you have a notice in green that says 'Your registration is complete'.

If you have a 20-hr TA/GRA assignment, you may submit a nonresident tuition waiver request here: https://utdirect.utexas.edu/acct/fb/waivers/index.WBX [International students should also check that you've submitted a waiver for the international student health insurance: https://global.utexas.edu/isss/insurance/students/waivers Questions? Email intlinsurance@austin.utexas.edu. Tuition Reduction Benefits (TRBs) will be applied to tuition bills at the start of the semester, so you may need to wait until the start of the semester to confirm your 0 fee bill.

Course loads

Full-time registration for graduate students is 9 credit hours in Fall and Spring semesters and 3 credit hours in Summer.

Summer Registration

The Graduate School does not require graduate students to register during the Summer unless they are employed in an academic position (GRA or TA) or hold a fellowship. Full-time registration in the summer is 3 hours.

Adding & Dropping courses

The following information comes from the Graduate School's website at: https://gradschool.utexas.edu/academics/policies/adding-and-dropping-courses

Adding Courses
- **Online**: During class days 1-4 for long sessions or 1-2 for summer sessions, students may add courses online. If the course is full or restricted, the student must have department approval to add the course.
- **By Department**: During class days 5-12 for long sessions or 3-4 for summer sessions, courses may be added by the department in which the course is offered. Students must have the approval of their graduate adviser. After the 12th class day for a long session or the fourth class day for a summer session, students may not add a course, except for rare and extenuating circumstances as

approved by the graduate dean. Requests to add a course under these circumstances require a letter of petition from the graduate adviser to the graduate dean and a completed Add/Drop form with all required signatures.

- **After the 12th class day** for a long session or the fourth class day for a summer session, students may only late-add a course with the approval of the graduate dean due to rare and extenuating circumstances.

Dropping Courses

With the required approvals, a student in good standing may drop a course through the last class day of a semester. A graduate student who is in a warning status [see: https://gradschool.utexas.edu/academics/policies/warning-status-academic-dismissal] because of failure to maintain a 3.0 grade-point average may not alter his or her registration without the approval of the graduate adviser. After the 12th class day (or the fourth class day in a summer session), the student must also have the approval of the Dean of the Graduate School, received by submission of the Add/Drop form to the Graduate School.

International students, in addition to obtaining the required approvals, must be advised by the International Office [https://global.utexas.edu] before dropping a course if their remaining course load will be fewer than nine hours in a long-term or three hours, if registered, during the summer session. Students employed as assistant instructors, teaching assistants, academic assistants, assistants and graduate research assistants may not reduce their course load to a less than full-time status.

Delete Drop

A student may drop a course online through the fourth class day of a fall/spring semester (or the second class day of a summer session) and receive a full refund.

A student may drop a course the fifth through the 12th class days of a fall/spring semester (or the third and fourth class days of a summer session) through the department offering the course and receive a full refund. Courses dropped during this period do not appear on the student's transcript. The exact amount of the refund may be obtained from Student Accounts Receivable https://afm.utexas.edu/student-accounts-receivable. After the 12th class day, a delete drop may be requested only in the cases of University error or in response to rare and extenuating circumstances. A delete drop request must be accompanied by a petition from the graduate adviser to the graduate dean detailing the error or situation submitted along with the Add/Drop form signed by the graduate adviser. Contact the Graduate Coordinator for assistance with this process.

Q Drop

From the 13th through the 20th class day of a fall/spring semester (or the fifth through the 10th day of a summer term), a student may drop a course with the approval of the graduate adviser and the graduate dean, but without a refund. An Add/Drop form signed by the graduate adviser must be submitted to the graduate dean for approval. Contact the Graduate Coordinator for this form.

Courses dropped during this period will appear on the student's transcript as a Q. They are not included in the student's GPA.

Q/F Drop

After the 20th class day of a fall/spring semester (or the 10th day of a summer term) through the last class day, a student may drop a course with the approval of the instructor, the graduate adviser and the

graduate dean. An Add/Drop form signed by the instructor and the graduate adviser must be submitted to the graduate dean for approval. Contact the Graduate Coordinator for this form.

The instructor will determine whether a Q or a grade of F will be recorded. Courses assigned Q appear on the transcript but are not included in the student's GPA.

Grades and Credit

Visit https://gradschool.utexas.edu/academics/policies/grades-and-credit to view the Graduate School's policies on grades and credit, including GPA requirements, "Credit/No Credit" grades, and Incomplete Grades.

Master of Science in Computer Science (MSCompSci)

The Master of Science in Computer Science (MSCompSci) program is designed for students who have completed a bachelor's degree in computer science and want to further their studies. Admission to the program is highly selective with a limited number of openings and many strong applicants each year. Only applicants who possess a bachelor's degree in computer science or equivalent are likely to be competitive for admission.

Interested in applying? Visit our Prospective Students page for information about applying to our program.

The department offers two on-campus Master's degree options: the Master of Science in Computer Science (MSCompSci) with thesis and the Master of Science in Computer Science (MSCompSci) no thesis/no report (also known as the coursework-only option). Both degrees require 30 hours of coursework. The no thesis/no report option is defined by more organized coursework than the thesis option, which requires 2 thesis classes. Students admitted to the Master's program do not need to declare which degree they intend to pursue. Students apply to receive the degree in the semester they complete the requirements for the option they chose.

In addition to our on-campus program, the department offers its Master of Science in Computer Science in an online format. The online program is primarily designed for working professionals who have a bachelor's degree in computer science and want to broaden and deepen their knowledge. The degree is equivalent to the on-campus degree. More information regarding that program may be found at: https://www.cs.utexas.edu/msonline

PhD Students Pursuing a Master's

PhD students may also pursue the MSCompSci degree as long as it does not interfere with their pursuit of the doctorate. PhD students must obtain approval of both the graduate adviser and research supervisor before taking a minor course.

1. Send an email to the graduate adviser with a scholarly justification for choosing the minor course(s).

2. Ask your research supervisor to send an email to the graduate adviser approving the minor course(s) choice.

Coursework Option (also called No Thesis/No Report)

The list of courses required to obtain a degree is called the program of work. A total of 30 hours of coursework within 3 areas is needed to complete the program of work for the Master's coursework option. The Graduate Advisor approves the program of work prior to graduation.

This checklist is available for planning and evaluating your program of work.

REQUIREMENT 1 - Background
(not a prerequisite, can be met after admission)
We acknowledge that other departments/universities divide up their curricula in different ways. The important thing is that approximately the same material has been covered. The decision about which courses you submit for review meet the background requirements is made by the faculty.

The following UTCS undergraduate courses, or equivalent, are required as background*:
- Discrete Math for Computer Science (CS 311)
- Introduction to Programming (CS 312)
- Data Structures (CS 314)
- Algorithms and Complexity (CS 331)
- Computer Organization and Architecture (CS 429)
- Principles of Computer Systems (CS 439)

Rules
1. Any background requirements not met at the time of admission must be satisfied while enrolled in the Master's program.
2. A common question is whether an undergraduate background requirement can be satisfied by taking the corresponding graduate course. Generally speaking, the corresponding graduate course assumes the undergraduate material as background, and so this approach is not permitted. That said, exceptions to this general rule are sometimes granted. A student seeking an exception should consult with the faculty member teaching the corresponding graduate course.
3. One upper-division background course taken at UTCS as a graduate student may count towards your CS Major coursework.

How to Complete Background Requirements
1. Complete an undergraduate degree with a major in Computer Science prior to joining our graduate program; OR
2. Coursework that covers the background topics through any combination of:
   a. Courses taken prior to admission.
   b. Background courses named above may be taken at UTCS as a graduate student. An overall GPA of 3.50 on courses taken at UTCS is required unless only 1 course is taken, in which case the requirement is for a 3.0 in that single class.
   c. Student receives a B or better on Final exam(s) of UTCS undergraduate background courses.

*Students who first enrolled prior to Fall 2016 may choose to graduate under the new rules above or fulfill the previous background requirements. Please see the pre-2016 background coursework form and checklist for a list of previous background coursework.

REQUIREMENT 2 - Major Coursework (CS courses)
24 hours of major coursework – Please pay attention to the Credit/No Credit (CR/NC) rules written in #2 below. 9 hrs. of Diversity courses, 15 hrs. of CS Graduate courses

Rules for Coursework Option

1. 9 hours of Diversity courses - 1 course from each of the 3 areas - applications, systems, and theory. Passed with a grade of B- or better.
2. 15 hours of any 5 CS graduate courses passed with a grade of C or better. 15 hours of any 5 CS graduate courses passed with a grade of C or better.

   - One undergraduate upper division course may be substituted for 1 graduate course; however, no 'elements' courses may be used as a substitute.
   - The undergraduate course may be taken either for a grade or CR/NC. Please remember background courses have a grade requirement so are not usually taken CR/NC. At most 3 hours of undergraduate coursework can count towards your program of work.
   - It is possible to receive credit towards the MS degree for taking a CS 395 conference course (i.e., supervised research). However, students wishing to explore this possibility should bear in mind the following considerations.
     o First, CS 395 is graded on a CR/NC basis, and at most one CR/NC course can be used towards the MS degree. (Exception: The MS thesis sequence CS 698A/B is graded on a CR/NC basis, and does not count against the one CR/NC course limit.)
     o Second, a grade of CR is necessary but not sufficient to receive credit towards the MS degree. After assigning a grade of CR in the course, if the supervising professor feels that the student's work is strong enough to merit MS degree credit, they should send a statement to this effect to **gradoffice@cs.utexas.edu**. The statement should include a brief summary of the student's accomplishments in the CS 395.

REQUIREMENT 3 - Minor coursework
6 hours (2 courses) in a minor: a supporting subject or subjects outside of computer science.

Rules
1. One minor course may be taken CR/NC. (Only one 3 hr. course total on your program of work may be taken CR/NC.)
2. One minor course may be an undergraduate upper division. (At most 3 hours of CR/NC coursework can count towards your program of work.)
3. Graduate Adviser approval required. This must be obtained no later then the first 12 class days in Spring or Fall sessions and the 4th class day in Summer session.

How To Obtain Approval and Register
Email the graduate adviser directly explaining the importance of the course with a cc: to gradoffice@cs.utexas.edu for minor course approval. Minor courses only count on your program of work with approval from the graduate adviser.

Personal registration dates and times can be accessed by going to your
Registration Information Sheet: https://onestop.utexas.edu/registration-and-degree-planning/registering-for-classes/registration-times/ (RIS).

READ THIS
In addition to the requirements mentioned above, there are rules imposed by both the CS department and the Graduate School. These rules cover grades, courses taken in residence, transfer credit, time limits etc. Every student should read these rules soon after being admitted to the Masters program and make sure to satisfy them.

The Graduate School (http://www.utexas.edu/ogs/) specifies degree requirements in the Graduate Catalog (http://registrar.utexas.edu/catalogs/) that apply to courses counted toward a graduate degree. Read that information and make sure that you satisfy each item. We summarize below the graduate school and department requirements that most often affect CS students.

- A maximum of 3 hours of undergraduate classes may be counted for a 30 hr. masters degree.
- A minimum grade point average of 3.0 overall is required.

- All degree requirements must be completed within a 6 year period.
- Diversity requirement: 9 hours of Diversity courses, one from each Diversity area.
- Major requirement: additional CS courses as required for each degree.
- No more than 3 hours of courses may be taken on a CR/NC.
- To receive a Masters degree, a student must have been in residence at UT-Austin for two full semesters or equivalent. (see transfer work below)
- Courses in which a student earned a C- and lower or NC may not be counted on the program of work.

Transfer work
Rules

 The following rules apply to courses transferred from another institution:
1. Only courses taken at major institutions within the United States may be transferred. CS Graduate Adviser and the Graduate school must approve the institution and course(s).
2. Only graduate courses may be transferred. Courses designed for both graduates and undergraduates are generally not eligible for transfer credit.
3. Only courses in which a grade of A or B was earned may be transferred.
4. A maximum of two courses (6 hours) may be transferred.
5. No course that counted toward a previous degree may be transferred.
6. No transferred course may be used to satisfy a Diversity requirement.
7. To apply for transfer credit, a student must submit:
   - A petition to the Graduate Advisor. The petition will also have to be signed by the Dean of the Graduate School.
   - An official transcript that shows the course that is to be transferred.
   - An official explanation of the course numbering system that is used at the institution at which the course was taken.
   - A copy of the course description taken from the institution's catalogue or web site.

Thesis Option

The list of courses required to obtain a degree is called the program of work. A total of 30 hours of coursework, including thesis, within 3 areas is needed to complete the program of work for the Master's Thesis option. The Graduate Advisor approves the program of work prior to graduation.

This checklist is available for planning and evaluating your program of work.

REQUIREMENT 1 - Background
(not a prerequisite, can be met after admission)
We acknowledge that other departments/universities divide up their curricula in different ways. The important thing is that approximately the same material has been covered. The decision about which courses you submit for review meet the background requirements is made by the faculty.

The following UTCS undergraduate courses, or equivalent, are required as background*:
   • Discrete Math for Computer Science (CS 311)
   • Introduction to Programming (CS 312)
   • Data Structures (CS 314)
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   • Computer Organization and Architecture (CS 429)
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Rules
1. Any background requirements not met at the time of admission must be satisfied while enrolled in the Master's program.
2. A common question is whether an undergraduate background requirement can be satisfied by taking the corresponding graduate course. Generally speaking, the corresponding graduate course assumes the undergraduate material as background, and so this approach is not permitted. That said, exceptions to this general rule are sometimes granted. A student seeking an exception should consult with the faculty member teaching the corresponding graduate course.
3. One upper-division background course taken at UTCS as a graduate student may count towards your CS Major coursework.

How to Complete Background Requirements
1. Complete an undergraduate degree with a major in Computer Science prior to joining our graduate program; OR
2. Coursework that covers the background topics through any combination of:
   a. Courses taken prior to admission.
   b. Background courses named above may be taken at UTCS as a graduate student. An overall GPA of 3.50 on courses taken at UTCS is required unless only 1 course is taken, in which case the requirement is for a 3.0 in that single class.
   c. Student receives a B or better on Final exam(s) of UTCS undergraduate background courses.

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Rules for Thesis Option
1. 9 hours of Diversity courses (https://login.cs.utexas.edu/graduate/courses/diversity- courses) - 1 course from each of the 3 areas - applications, systems, and theory. Passed with a grade of B- or better.
2. 9 hours of any 3 CS graduate courses passed with a grade of C or better.
   - One undergraduate upper division course may be substituted for 1 graduate course; however, no 'elements' courses may be used as a substitute.
   - The undergraduate course may be taken either for a grade or CR/NC. Please remember background courses have a grade requirement so are not usually taken CR/NC. At most 3 hours of undergraduate coursework can count towards your program of work.
   - It is possible to receive credit towards the MS degree for taking a CS 395 conference course (i.e., supervised research). However, students wishing to explore this possibility should bear in mind the following considerations.
     - First, CS 395 is graded on a CR/NC basis, and at most one CR/NC course can be used towards the MS degree. (Exception: The MS thesis sequence CS 698A/B is graded on a CR/NC basis, and does not count against the one CR/NC course limit.
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3. 2 CS Thesis courses - CS 698A and CS 698B are offered only for CR/NC. These courses are taken in separate semesters. Be sure to enroll in CS 698B the semester you plan to graduate. You may enroll in CS 698B more than once though it only counts one time on your program of work.

REQUIREMENT 3 - Minor coursework
6 hours (2 courses) in a minor: a supporting subject or subjects outside of computer science.

Rules
1. One minor course may be taken CR/NC. (At most 3 hours of CR/NC coursework can count towards your program of work, excluding thesis work.)
2. One minor course may be an undergraduate upper division
3. Graduate Adviser approval required. This must be obtained no later then the first 12 class days in Spring or Fall sessions and the 4th class day in Summer session.

How To Obtain Approval and Register

Email the graduate adviser directly explaining the importance of the course with a cc: to gradoffice@cs.utexas.edu for minor course approval. Minor courses only count on your program of work with approval from the graduate adviser.

Personal registration dates and times can be accessed by going to your Registration Information Sheet: https://onestop.utexas.edu/registration-and-degree-planning/registering-for-classes/registration-times/ (RIS).

READ THIS
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Read that information and make sure that you satisfy each item. We summarize below the graduate school and department requirements that most often affect CS students.

- A maximum of 3 hours of undergraduate classes may be counted for a 30 hr. masters degree.
- A minimum grade point average of 3.0 overall is required.
- All degree requirements must be completed within a 6 year period.
- Diversity requirement: 9 hours of Diversity courses, one from each Diversity area.
- Major requirement: additional CS courses as required for each degree.
- No more than 3 hours of courses may be taken on a CR/NC.
- To receive a Masters degree, a student must have been in residence at UT-Austin for two full semesters or equivalent. (see transfer work below)
- Courses in which a student earned a C- and lower or NC may not be counted on the program of work.

Transfer work

Rules

1. The following rules apply to courses transferred from another institution:
2. Only courses taken at major institutions within the United States may be transferred. CS Graduate Adviser and the Graduate school must approve the institution and course(s).
3. Only graduate courses may be transferred. Courses designed for both graduates and undergraduates are generally not eligible for transfer credit.
4. Only courses in which a grade of A or B was earned may be transferred.
5. A maximum of two courses (6 hours) may be transferred.
6. No course that counted toward a previous degree may be transferred.
7. No transferred course may be used to satisfy a Diversity requirement.

8. To apply for transfer credit, a student must submit:
    I.   A petition to the Graduate Advisor. The petition will also have to be signed by the Dean of the Graduate School.
    II.   An official transcript that shows the course that is to be transferred.
    III.   An official explanation of the course numbering system that is used at the institution at which the course was taken.
    IV.   A copy of the course description taken from the institution's catalogue or web site.

Doctor of Philosophy (PhD)

The PhD is a research degree. Our PhD students also take courses, which give them the foundation on which to build their research programs. However, the overriding goal of the PhD program is to show students how to conduct outstanding research. We expect all our PhD students to become involved in research within their first semester (see Research Immersion below) and continue their involvement throughout their time at UT. To understand how our PhD students are involved in our research activities, browse our research web pages (https://www.cs.utexas.edu/research/areas).

As a consequence of early immersion in research, our PhD students are often already recognized in the wider research community well before they graduate. They regularly travel to conferences, present papers, and often receive best paper awards.

Interested in applying? Visit our Prospective Students page for information about applying to our program.

Most PhD students receive financial support from the department. Please see the financial information page for more information about this.

PhD Steps to Degree Steps Toward Graduation

Remember to see the "Degree Requirements" for the rules of each step. You will need to follow these steps along the path to the PhD

1. In your first 3 years A – F are completed concurrently.
   a. Complete the Background Coursework Requirements.
   b. Before enrolling in your 2nd semester find a supervising professor and identify a research area. Initially you will not have a specific topic. You also might choose to change topics and/or faculty supervisors a few times. Please be aware that too many changes delays your degree and at some point would be considered unsatisfactory progress by the department.
   c. Enroll in at least 1 conference course (CS 395) each semester until admission to candidacy. The CS 395 is supervised each semester by your research supervisor. Your first semester, CS 398T takes the place of the conference course.
   d. Choose 3 depth courses in consultation with your faculty research supervisor. Choose courses designed to prepare you for the research you plan to do, at most one of these courses can be taken outside the CS department.
   e. Complete your Diversity Program,
   f. Schedule a Research Preparation Exam by the end of the 3rd year.
2. Submit a Research Qualification (RQ) Document to the Graduate Office by the end of the 3rd year in the PhD program.
3. Write and present your Dissertation Proposal and Advance to Candidacy.
4. Schedule and Pass the Final Defense
5. Submit the Dissertation to the Graduate School - you must follow the Graduate School's rules in preparing your dissertation. Please see: https://gradschool.utexas.edu/academics/theses-and-dissertations/digital-submission-requirement

Throughout this process, feedback from your research supervisor and from the faculty as a whole will be very important to you. The CS Graduate Studies Committee (GSC) meets at the beginning of each semester. The GSC is composed of all the CS faculty and a few faculty from other departments who supervise research of CS PhD students. At those meetings, Research Qualification (RQ) proposals are reviewed and approved and the progress of PhD students is evaluated. Students will be informed if their performance is not satisfactory. Any student whose progress is deemed unsatisfactory for two consecutive semesters will be terminated from the PhD program.

A PhD student is eligible to receive the MSCompSci degree upon completion of all Graduate School requirements for the Master's degree. Check the MSCompSci degree requirements if you wish to pursue this option.

Milestone	Time Since Admission
Completion of Diversity program	1.5 - 2 years
Submission of Research Qualification proposal	2.5 - 3 years
Admission to candidacy	2.5 - 4 years
Dissertation defense	3 - 7 years

The 99 Hour Rule

The "99 hour rule" refers to the implementation of Senate Bill 961, passed by the Seventy-fifth Legislature. It is the rule that students at UT Austin with over 99 doctoral hours may be subject to the payment of nonresident tuition. Please see: https://gradschool.utexas.edu/academics/policies/99-hour-rule

Special Doctoral Travel Support

PhD students may apply for travel grants from a departmental fund allocated to support their travel to present papers at conferences. The graduate office calls for the travel requests about 6 weeks into each semester. To apply for the grant:

- Print the "Application for Graduate Student Travel Support" form listed in the Forms Bank. Type or print your information on the form. Obtain the signature of your faculty adviser. Sign the form.
- Turn in the form to CS Graduate Office in GDC 2.728
- At least 2 weeks prior to travel, complete the required online Request for Travel Authorization (RTA) (http://apps.cs.utexas.edu/travel_request/) and the additional required forms linked to on the RTA page.

Travel Information for Graduate Students

The university has put into place a travel policy for all students traveling abroad. Please see https://global.utexas.edu/risk/travel/policies for more information on the relevant policies and https://global.utexas.edu/risk/travel for the steps necessary to obtain travel authorization outside the U.S.

Required for all travel and reimbursement

Request for Travel Authorization (RTA) (https://apps.cs.utexas.edu/apps/rta) must be submitted at least two weeks before travel. Please contact the CS accounting office, accounting@cs.utexas.edu, if you have any questions regarding this electronic form.

Original, itemized, travel receipts showing proof of payment. These are needed to receive reimbursement. If you have any questions on what is required please contact the CS accounting office, accounting@cs.utexas.edu.

Graduate Student Travel Support

If you wish to apply for CS department travel funding please submit an Application for Graduate Student Travel Support, found in the Forms Bank. Follow the department deadlines announced by the graduate office for submitting the Application for Graduate Student Travel Support. Applications are usually due late September, late February, and late May.

Please do not request travel support from the department if you are already receiving travel support from your research area. If the support you expect to receive is directly from your research supervisor or another source, like the conference, you may submit a travel support request. Please indicate on the request if you are receiving other funding and the amount of that funding.

<u>Professional Development Awards</u>

The department receives some funding for graduate student travel from your dean's office, the graduate school. They call these Professional Development Awards. We consider that part of the total funding we can award to students and combine it with the departmental travel monies; however, if you receive this award, the CS graduate office will contact you to complete the graduate school's required form. (http://www.utexas.edu/ogs/funding/travel.html)

<u>Important</u>
Students who decide not to use awarded funds should notify the graduate office at gradoffice@cs.utexas.edu immediately. Timely notification allows the funds to be redistributed to other students.

Degree Requirements

The degree requirements for the doctoral program are outlined below:

Background
The following UTCS undergraduate courses, or equivalent, are required as background (these are not prerequisites and can be met after admission):
- Discrete Math for Computer Science (CS 311)
- Introduction to Programming (CS 312)
- Data Structures (CS 314)
- Algorithms and Complexity (CS 331)
- Computer Organization and Architecture (CS 429)
- Principles of Computer Systems (CS 439)

A student can satisfy the background requirement using one of the following options:
- Complete a degree (undergraduate major or Master's) in Computer Science prior to joining our graduate program.
- Coursework that covers the background topics through any combination of:
  - Courses taken prior to admission. If these are not the UTCS background courses listed above, certification by an appropriate member of the UTCS tenure-track faculty is required.
  - Background courses named above (or the equivalent honors courses) may be taken at UTCS as a graduate student. An overall GPA of 3.50 on courses taken at UTCS is required unless only 1 course is taken, in which case the requirement is for a 3.0 in that single class. A grade of B or better on the final exam in a background course may be substituted for a full course grade with certification by an appropriate member of the UTCS Tenure-track faculty.
  - Courses certified by appropriate UTCS tenure-track faculty as covering equivalent material may be taken at UTCS or elsewhere by our graduate students. Certification must be obtained prior to taking the course. Note that this does not empower students to register for UTCS graduate courses if they do not meet the prerequisites for admission to those courses.

- UTCS faculty may certify a student as having covered required background material by interrogating the student's knowledge of the material directly.

Students who first enrolled prior to Fall 2016 may choose to graduate under the new rules above or fulfill the previous background requirements. Please see the pre-2016 background coursework form for a list of previous background coursework.

Research Immersion
Every PhD student is expected to spend a substantial amount of time on research, starting from the first semester. Doctoral students are required to enroll in a special research course CS 398T during their first semester in the program. (Students entering in Spring will be required to take this course the following Fall.) As part of this class, students will be expected to find a research supervisor with whom the student will work throughout the first year; each PhD student must always have a research supervisor.

In each subsequent semester, until admission to candidacy, a PhD student must enroll in and complete a CS 395 Conference Course (research course) with a research supervisor. Please submit the necessary form in the Forms Bank to the graduate office at the start of each semester. Please note that in the space where you mark your semester/year, students should indicate the academic semester (i.e., Fall/Spring/Summer) and year in which the course is being taken.

Doctoral students may not enroll for 12 or more hours unless they receive special permission from the Graduate Advisor. Such permission is rarely granted.

Diversity Program
The goal of the Diversity program is to expose students to different research styles and methods from various areas of computer science. The Diversity program requirements are waived for any student who either receives a Master's degree in computer science before enrolling at UT Austin, or who receives a Master's degree from UTCS during the course of their PhD program. All other students are required to take one Diversity course from each of three areas:
- Theory
- Systems
- Applications

See "Diversity Courses" for a list of the approved courses that are offered in each area.

Courses used to satisfy the Diversity requirement should be completed with a grade of B- or better, and a combined grade point average of 3.5 must be achieved on the three (3) courses used to satisfy the Diversity requirement. An overall grade point average of 3.1 must be maintained on all Diversity courses taken. Additional Diversity courses may be taken as part of the Depth program. Diversity courses may not be taken CR/NC due to the GPA requirements.

Diversity Course Waivers may be used to fulfill the Diversity program requirements. A Diversity Course Waiver is granted when: (1) a student has taken a graduate-level course at another university and that course is equivalent to a UTCS Diversity course, and (2) the student is able to demonstrate a satisfactory understanding of this material to a Graduate Studies Committee (GSC) member who teaches the Diversity course.

To request a Diversity Course Waiver, the student should contact the GSC member and provide them with the prior course syllabus and other supporting materials. The GSC member may choose any method to evaluate the student's knowledge: a written or an oral examination is possible. The GSC member sends an email with their approval of the Diversity Course Waiver to the CS program coordinator for final approval at the next GSC meeting. All Diversity Course Waivers are subject to the approval of the UTCS GSC.

Note: Doctoral students who first enrolled prior to Fall 2018 may choose to graduate under the new rules above or fulfill the previous Diversity program. Please see the pre-2018 PhD Program for a description of the earlier Diversity Program requirements.

Depth

Students satisfy this requirement by taking at least 3 graduate courses related to their particular research interests. At most one of these courses may be outside the Computer Sciences Department; they are usually chosen from the CS department's list of graduate classes. No course used to satisfy the minor requirement for the Master's may be used. Courses listed as Diversity courses may be used as part of a Depth program as long as they were not also used in the student's Diversity program. No CS 395 Conference Course or CS 398T course may be included in a Research Qualification (RQ) document. All courses used to satisfy this requirement must be completed with a grade of B or better. A grade point average of 3.6 over all Depth courses must be attained.

Research Preparation Exam

The Research Preparation Exam requires students to learn and demonstrate specific skills necessary to do research early in their careers. Please send the title, date, time, place, short abstract, and committee members for your RPE to gradoffice@cs.utexas.edu when you have scheduled it. The CS faculty and students will be notified.

For this exam, the student (in consultation with faculty) selects and conducts research on a topic, and presents a talk, to be approved by a committee of 3 UT GSC faculty members. The chair of the RPE committee should be a CS GSC member and one of the committee members should be from outside the student's research area. The committee will evaluate the student with respect to two questions:

- Has the student demonstrated scholarship and potential to conduct original research?
- Has the student demonstrated ability to communicate technical content effectively to a general-CS audience?

A student should pass the exam by the end of their 3rd year in the PhD program (before filing the Research Qualification document). It is not necessary to complete all coursework before doing the RPE. Following the RPE, an email should be sent by the chair of the committee to the graduate adviser and the CS graduate program coordinator with a copy to all committee members indicating the student successfully completed the RPE requirement.

Research Qualification (RQ) Document

The RQ document may be downloaded from the [Forms Bank](). In the RQ document, the student:

- provides evidence of satisfying the background requirements
- submits coursework (3 Diversity courses completed and 3 Depth courses, some of which may remain to be taken) with satisfaction of the GPA requirements
- provides evidence of completing the Research Preparation Exam
- formalizes dissertation advisor(s)

The RQ document must be filed by the end of the 3rd year in the PhD program.

Dissertation Proposal and Advancing to Candidacy

Each student must prepare a written dissertation proposal and then give an oral public presentation of the proposal. This will normally happen soon after the RQ document is filed.

Proposing and Advancing to Candidacy

1. With the assistance of your supervising professor, prepare a written dissertation proposal document and select a committee for approval by the graduate adviser. The committee must be composed of a minimum of 4 members, of which 1 must be someone whose teaching and research are principally outside of the department, and three members, including the supervisor, must be members of the CS department's Graduate Studies Committee (GSC). A committee can be composed of six members, provided at least 4 are members of GSC's, 3 from the CS GSC while 1 can be from another department's GSC.

2. The Graduate Adviser must approve your committee prior to making final committee plans (an email message will do). Be sure what you send to the graduate adviser for approval includes a short description of your dissertation and what role you foresee for each proposed committee member in helping you reach your research goals. The approved committee will examine the student on the proposal. If they are unanimously satisfied that the proposed work, if substantially completed, would constitute an acceptable dissertation and that the student has the potential for substantially completing the work, then they will recommend admission to candidacy (#1 below) and sign the required form found under the forms section of the graduate tab. Admission to candidacy must be approved by the Department's Graduate Studies Committee and the Graduate School.

3. Select a date and time when all committee members can be present for the proposal. At least your research supervisor must be present at the proposal. It is allowable for the 3 others to attend the proposal virtually. A final draft of your proposal should be submitted to committee members four weeks prior to the date of the proposal.

4. Schedule a room for your proposal through the online calendar at: https://apps.cs.utexas.edu/calendar/meeting-rooms. When the administrator has approved your request, you will receive email confirming the approval.

5. The Graduate Coordinator will publicize your proposal. Approximately 3 weeks* prior to the date, you must give the graduate coordinator all the necessary information (i.e. date, time, place, title of dissertation, and an abstract of your proposal). Email is the easiest way to do that. The graduate coordinator will then send out the public announcement two weeks prior to the date of the proposal. (*This is not a firm deadline, but the graduate coordinator does need to receive all the information at least several days in advance of the two-week deadline to send out the information.)

6. Pass the proposal exam. At least 3 members of the committee must be present at the exam, which may include questions over the entire depth area; it is not necessarily limited to the specific dissertation research topic. Questions from any GSC member are encouraged. The following criteria will be used to determine whether or not a student passes the exam:
     i. Does the candidate demonstrate knowledge of his/her depth area?
     ii. If substantially completed, would the work described in the proposal constitute an acceptable dissertation?
     iii. Does the student display the potential for substantially completing the work?

Passing of the exam requires the unanimous approval of the committee on these three points. Be sure to obtain committee signatures on the "Dissertation Proposal Committee Approval Form" found under the forms sections of the graduate tab. If unanimous approval does not occur, a student may reform a committee or alter the topic. S/he is then required to retake the examination until unanimous approval is obtained.

1. After passing your proposal exam and submitting the required "Dissertation Proposal Committee Approval Form" to the CS graduate office, you will need to complete an online Application for Candidacy. This form is now available through the Graduate School's website. You may begin the online application process before the proposal, but do not "submit" it until you pass the proposal. Once you submit an email will go to your research supervisor letting them know and they should approve it if you passed. If final approval is not received within a week of that please contact the graduate office for follow up. If you have any questions regarding completing the form, the Graduate Coordinator can help you. NOTE: It is not necessary to fill out the Program of Work form. This has been noted by the submission of your Depth Proposal or Research Qualification (RQ) Document. A curriculum vita for any member of your committee who is not a GSC member should be submitted to the Graduate Coordinator as soon as possible, either before or after completing the on-line candidacy form.
2. You will receive official notification when the Dean formally admits you to candidacy. At the next registration/pre-registration or add/drop period, register or add/drop to _99W. If it is after the 4th class day contact the grad office to make the add/drop.
   NOTE: Enrollment in 2 semesters of dissertation, C S _99W, is required. Summer may count as 1 of the semesters of enrollment. You must be in candidacy by mid-November in fall and late-March in spring in order to add/drop to dissertation hours in the same semester you advance to candidacy. For specific dates, please consult the CS graduate office. You must be enrolled in dissertation hours continuously in fall and spring semesters until graduation. You must be enrolled in _99W in the semester you plan to graduate. If that's summer then summer enrollment is required.

What if Your Research Direction Changes After Your Proposal?

In the event of a significant change in research direction, a student will be required to re-certify that each member of the committee continues to answer positively the three questions that determine whether or not the student passes the proposal exam. The committee may choose to require a public re-examination. A student's status in the PhD program is in jeopardy prior to the passage of such a re-examination.

Final Defense

Overview

Each student writes a dissertation that describes original research and submits it to the members of the dissertation committee. There are many resources available to assist in writing a dissertation. The student will then give a public presentation of the dissertation research. This is called the defense. When the committee is satisfied with the dissertation (there are usually some rewrites), they will inform the Graduate School. This is done by submitting the 'Report of Dissertation Committee' (formerly known as the 'gold' form) signed by all committee members present at the defense. The 'Report of Dissertation Committee' form is sent to the research supervisor before the defense.

A note about multi-authored work: Effective Fall 2021, students who choose to include multi-authored content are required to obtain the permission of all co-authors. The student's supervising committee will be responsible for identifying and ensuring that written permission from all co-authors has been obtained when certifying approval of the document to the Graduate School. Signatures from all co-authors should be collected on the "Co-author Permission Form" found in the forms bank.

First 12 class days

Verify your registration in _99W. You are expected to be in the W section of dissertation the semester you defend.

6 weeks prior to defense

Any changes to your committee must be made no later then 6 weeks prior to defense. All members of the committee should agree to the committee change. Please send their agreement to the graduate adviser and copy the CS graduate program coordinator. Be sure you ask the committee member(s) being replaced to send an email to the graduate adviser with a cc to the CS graduate program coordinator stating their wish to withdraw from the committee. Download the form from the graduate school web site. It can be found on the forms page - http://gradschool.utexas.edu/academics/forms - under Doctoral Forms. It's called 'petition for a change in doctoral committee' and it's a writable pdf. When you've obtained your committee supervisor's signature, bring it to the graduate office and it will be submitted for the graduate adviser's signature.

4 weeks prior

All committee members should have a copy of your dissertation.

3 weeks prior

All committee members sign the Graduate School form here: Request for Final Oral Examination. Each member's signature, or the proxy signature of the research supervisor for the member, is an agreement that (1) the student is ready to defend the research and (2) the member will read the dissertation prior to the defense. It is expected that all members of the committee attend the defense, either in person or via teleconference.

If one non-supervisory committee member is unable to attend the defense, there is a pre-typed section on the 2nd page of the Request for Final Oral Examination form, which may be used. Lastly, please bring the form to the CS graduate office so the graduate adviser's signature can be obtained and the form returned to you. **You must submit the form to the Graduate School at least 2 weeks before your defense date.** After submitting the form, please send your PhD oral defense announcement to the CS graduate office so the defense can be announced to the department.

The Defense

It is expected that all members of the committee attend the defense, either in person or via teleconference. If one non-supervisory committee member is unable to attend the defense, that should be noted when filling out the Request for Final Oral Examination form prior to the defense. If you think it is impossible to schedule the defense so that your committee members are physically or virtually present, please contact the CS graduate program coordinator.

Your supervisor should bring your 'Report of Dissertation Committee' form to the defense. Following your defense, you can bring the form (signed by your committee members) to the CS Graduate Office for the GSC representative's signature.

Deadlines & Dissertation Submission Instructions

Multi-authored work: Effective Fall 2021, students who choose to include multi-authored content are required to obtain the permission of all co-authors. The student's supervising committee will be responsible for identifying and ensuring that written permission from all co-authors has been obtained when certifying approval of the document to the Graduate School. Signatures from all co-authors should be collected on the Co-author Permission Form found in the forms bank. This form should be submitted to the Graduate School along with your Report of Dissertation Committee form.

Students must schedule their defense and submit their dissertation and final paperwork to the Graduate School by the posted deadlines. Deadlines and submission instructions are posted at: https://gradschool.utexas.edu/academics/graduation/deadlines-and-submission-instructions

IMPORTANT: Students are required to file to graduate via an electronic form during the semester they plan to graduate. All forms can be filled out on the web, then downloaded and printed. Look in the Doctoral section of this web site for "forms".

Any student not graduating in the semester they defend must notify the graduate office before the last class day of that semester.

Additional Requirements

A minimum grade point average of 3.0 must be maintained over all CS graduate courses. All course requirements must be completed within a six-year period. There is a two-semester requirement for PhD Candidacy. A student may enroll in a summer session as part of the 2 semester enrollment requirement.

The Doctor of Philosophy degree requires a minimum of thirty semester hours of coursework, including dissertation hours.

The Requirements of the Graduate School

The Graduate School maintains additional academic & registration policies (https://gradschool.utexas.edu/academics/policies), which must be followed by all CS graduate students. These policies address such issues as grades & credit, courses taken in residence, transfer credit, and time limits. If you are unsure about a requirement, please speak with the CS graduate office.

Parallel Masters Study

PhD students may also pursue the MSCompSci degree as long as it does not interfere with their pursuit of the doctorate. Additional coursework is required for the MSCompSci. See the Master's Program page for more information.

The University of Texas at Austin
Computer Science

Courses

Graduate courses are divided into two groups:

1. Diversity courses (listed below) can be used to satisfy the Diversity requirements of either the PhD or the Master's degree. They may also be used as part of a student's Depth or elective program.
2. Non-Diversity courses can be used to fulfill Depth or elective requirements.

A full listing of all of the department's graduate classes can be found in the CS section of the University's Graduate Catalog (https://registrar.utexas.edu/catalogs). One course deserves special mention here: CS 395T is a non-Diversity topics course. Each semester, the faculty offer CS 395T sections on a variety of topics that span their research interests. Note that CS 395T is different from CS 395 Conference Course.

Diversity Courses
The courses that are currently approved to fulfill the Diversity requirements of both the PhD and the Masters degree are shown below.

There are three Diversity areas: Theory, Systems, and Applications. PhD and Master's students must take at least one Diversity course from each of the three areas. Additional Diversity courses may also be used to fulfill a student's Depth or elective program.

Theory
CS 388C Combinatorics & Graph Theory
CS 388D* Data-Driven Algorithm Design
CS 388G Algorithms: Techniques & Theory
CS 388H Cryptography
CS 388L Introduction to Mathematical Logic
CS 388M* Communication Complexity
CS 388P* Parallel Algorithms
CS 388R* Randomized Algorithms
CS 388S Formal Semantics & Verification
CS 388T Theory of Computation (Required prerequisite: undergraduate Theory of Computation or a similar complexity theory course)
CS 389L* Automated Logical Reasoning
CS 389R Recursion & Induction I
CS 390S* Sublinear Algorithms

Systems
CS 380C Compilers
CS 380D Distributed Computing I
CS 380J* Operating Systems Implementation
CS 380L Advanced Operating Systems
CS 380N Systems Modeling
CS 380P* Parallel Systems
CS 380S* Theory and Practice of Secure Systems
CS 382M Advanced Computer Architecture

CS 386C Dependable Computing Systems
CS 386L Programming Languages
CS 386M Communication Networks
CS 386S Network Protocol Security
CS 386W* Wireless Networking
CS 396M Advanced Networking Protocols

Applications

CS 381K Artificial Intelligence
CS 381V* Visual Recognition
CS 383C Numerical Analysis: Linear Algebra
CS 383D Numerical Analysis: Interpolation, Approximation, Quadrature, and Differential Equations
CS 384G Computer Graphics
CS 384P* Physical Simulation
CS 384R* Geometric Modeling & Visualization
CS 386D Database Systems (This course takes the place of courses CS 386 and CS 387H which will no longer be taught. Students who have taken these courses may still apply them toward their degree; however they cannot also get credit for CS 386D).
CS 388* Natural Language Processing
CS 391D* Data Mining: A Mathematical Perspective
CS 391L Machine Learning
CS 391R* Robot Learning
CS 392F* Automated Software Design (formerly Feature Oriented Programming)
CS 393C* Agent-Based Electronic Commerce
CS 393R* Autonomous Robots
CS 393P/395T Program Synthesis (beginning Spring 2021)
CS 394C Algorithms for Computational Biology (Originally named Computational Biology)
CS 394F Knowledge Representation & Reasoning
CS 394N Neural Networks
CS 394P Automatic Programming
CS 394R* Reinforcement Learning: Theory and Practice

*These courses were originally taught as topic courses (CS 395T). Students should be aware that they will not receive dual credit for retaking the course under the new course number.

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Curricular Practical Training

UT's International Office is the primary source of information for Curricular Practical Training (CPT). Visit their CPT page here: https://global.utexas.edu/isss/immigration/f-1/employment/cpt. It is the student's responsibility to follow all the rules and guidelines of both the Immigration & Naturalization Services and our department. You are reminded that INS may audit a student's record when applying for permanent residency.

IMPORTANT: Please follow the departmental instructions below *BEFORE* submitting your myIO CPT application.

CS Department Instructions for Applying for CPT: https://www.cs.utexas.edu/graduate-program/curricular-practical-training

Important Information:

COURSE(S) USED TO SATISFY CPT REQUIREMENT: "CS 195: Practicum in Computer Sciences Application" is the course designated by our department to satisfy the CPT requirement. Students must be enrolled during the period of their CPT; however, students doing Summer CPT may choose to defer enrollment in the CPT course to the following fall. If you plan (after obtaining permission) to continue the CPT in the Fall you will be expected to register for two CS 195 courses, one correlating to summer and one correlating to fall.

Exceptions to this rule: In rare cases, master's thesis and doctoral students in candidacy may use the dissertation/thesis course if CPT is required for the thesis/dissertation. Please note that the work must be necessary for completion of the thesis/dissertation, not just related to it. As a department we do not 'require' CPT for thesis or dissertation so you must provide an explanation of why in your particular case you are required to do this CPT.

DATES OF EMPLOYMENT: The recommended first date of employment is after the official graduation date for the semester.* Students who expect to be appointed as TA's for the following semester must be on campus prior to the first day of classes to participate in any and all necessary orientations, workshops, etc. All students doing summer CPT must return to campus by the first class day.

View the academic calendar here: https://registrar.utexas.edu/calendars

For more information about dates of employment, please read "What are the earliest and latest start dates I can use for CPT authorization?" in the FAQ at https://global.utexas.edu/isss/immigration/f-1/employment/cpt

*EXCEPTIONS TO THE ABOVE DATES REQUIRE SPECIAL APPROVAL FROM THE SUPERVISING PROFESSOR AND GRADUATE ADVISOR. Students cannot begin employment until all course work and final exams have been completed. Teaching Assistants cannot begin employment until their TA responsibilities are complete; generally this is after final exams once their courses have been graded.