Senior Thesis FAQs

CS 499 Senior Thesis.

What is a senior thesis?

A senior thesis is an individual research project that you formulate, carry out and write up under the guidance of a faculty member. As the course description states, “A student works with a faculty member on a mutually agreed upon thesis topic and completes a written thesis. Work involves literature search, oral presentation, analysis and/or implementation, paper preparation, and a written thesis.”

Who can do a senior thesis? Who must do a thesis? Who should do a senior thesis?

Any undergraduate major in the Computer Science Department (CS in Engineering, Math & CS in LAS, Stats & CS in LAS) can complete a senior thesis.

A thesis is required for students in the James Scholars program in Engineering who opt to take extra 400-level CS electives for their honors contract.

A thesis is recommended for any student with a strong interest in graduate work because completing a thesis provides valuable experience in undertaking individual research, formulating questions, conducting research and writing up conclusions. Students completing the CS track may complete the Senior Thesis as an alternative to the Software Engineering or Senior Project sequences.

When should I get started? When is it due?

Don’t count on completing a senior thesis – from topic formulation to finished product – in the space of a single semester! You should already have your topic formulated by the early registration period for the semester in which you plan to begin your thesis. And you should begin your thesis the semester before you graduate. Instructors can submit DFR (deferred) grades if the thesis isn't finished by the end of the term and if the thesis advisor thinks it appropriate. If you take two full semesters to complete the thesis – which, we’ve found, is quite common – you may sign up for CS 499 for 3 hours for each semester in which you work on the project.

How do I register for a senior thesis?

First, come up with topic and find an advisor (see below for suggestions on how to do this). Once you have a rough idea of the topic, fill out and print out the undergrad thesis form, accessible here; Get your advisor’s signature on the form and bring the signed form to the Academic Office, 1210 SiebelCenter, where you’ll receive the CRN for the section you should register for.

How do I come up with a topic?

Some students have definite and fairly detailed ideas for their thesis. If this is you, shop for an advisor willing to supervise your work, selecting from faculty whose research areas match your intended thesis. If this is not you, then you should start by first deciding on the sub-area of CS in which you’d like to do a thesis: Think back on which CS courses you’ve found particularly interesting and/or which CS courses you’ve done particularly well in. Was there a topic that you found especially intriguing? Is there an application of Computer Science that you want to investigate? Once you know the general area, you should contact a faculty member whose research is in that area, and get help coming up with a specific topic that matches your general interests.

How do I find a thesis advisor?

Again, you should think of a course or an area of CS that you’ve found interesting, motivating, etc. You can contact the instructor for the course you particularly enjoyed, or you can look up the other faculty in the area that interests you by consulting the faculty directory on the CS departmental website.

You should also check the faculty research page on the wiki – where faculty list opportunities for undergraduates to get involved with ongoing research and give brief descriptions of the kinds of research they are currently conducting. Many of the faculty members listed on this page specify CS 499 as among the research opportunities they offer.

How long does it have to be?
Your faculty member will help make sure your thesis is considerable enough without being overwhelming.

**Can I have a thesis advisor from another department?**

It is possible to complete a thesis under the guidance of a faculty member from another department. The thesis has to be CS-related, however, and you have to have a CS faculty member agree to serve as the advisor in name if not in practice. The CS faculty member must assign the final grade – even if he/she simply accepts from the “actual” thesis advisor from another department. Ideally, the CS faculty member should work together with the “in-practice” advisor.

**Is there a list of past senior thesis topics?**

Not yet, but we’re working on it.

**Are there formatting and submission guidelines? Do I have to defend my thesis and/or deposit it anywhere?**

Unlike a Masters or PhD thesis, which must adhere strictly to university-wide formatting and submission guidelines, an undergraduate senior thesis can follow a format set by the thesis advisor. Once the thesis advisor is satisfied with the final product and assigns a grade, that’s it.