

Honors in Computer Science

Thinking about doing honors in Computer Science? Awesome, read on!

Overview

The honors program provides an opportunity for an in-depth and independent study of a particular topic or problem within Computer Science. While this program is very demanding, many find it very rewarding as well – honors allows for a deeper understanding of an area of interest, and provides valuable experience in the reading, writing, and presentation of scholarly work. There are a number of types of possible projects, but most involve either original research in Computer Science or the development of an application that makes use of algorithms and techniques from recent papers. All honors projects include a thorough exploration of the primary literature.

Honors students are required to prepare an honors thesis which includes an introduction to their chosen topic or problem, a thorough summary of relevant research, and a detailed discussion of their own contributions. Honors students also give two talks on their work. The first talk is given to the department faculty at the end of the fall semester, followed by a public presentation in the spring. Finally, honors students take a comprehensive honors exam in the spring, which includes both a written and oral component with an external examiner.

Eligibility

To apply to the honors program, you'll need to:

- Have a GPA of at least 3.3 both overall **and** within Computer Science.
- Have completed at least two 300-level courses prior to your senior year.
- Have at most three additional courses remaining to complete the Computer Science major by the start of your senior year. (Note that honors does not count towards the number of electives required for the major.)
- Be enrolled and on campus for your senior year. (Depending on your project, you may not need to be on campus for Winter Term, but you are expected to spend January working on your thesis.)

Keep in mind that these are minimum requirements. Successful candidates have generally finished or nearly finished their major requirements before their senior year, and usually have a GPA above 3.6. Students also often spend the summer prior to their senior year doing work related to their project, whether that be on-campus research, an REU program, or independent study.

Please note that even strong applications may be denied due to staffing limitations.

Project Proposal

You are encouraged to discuss your ideas with faculty in the department to determine whether your proposal is appropriate for an honors project – some proposals may be overly ambitious, while others might be better suited to a semester-long private reading.

Your proposal should include a concrete description of your goals and methods, a timeline indicating when you plan to complete various tasks, and a discussion of some potentially relevant research with a bibliography. While you aren't expected to be an expert in the area beforehand, you should demonstrate that you've begun digging into the existing work, rather than simply finding a few papers whose titles suggest some relevance to your project. It is also helpful if you specify your planned course schedule for both semesters of your senior year.

Honors Exam

The honors exam is taken shortly after Spring break and consists of an oral and a written component, both of which are administered by a faculty member from another institution. The exam covers material from all required courses. Students are strongly advised to begin preparation for the exam well in advance.

Written Thesis

The thesis must be typeset in LaTeX using a template available on the department homepage. Your final document may not exceed 12 pages (excluding the bibliography and appendices). Additional formatting instructions and guidelines may be found within the template. Roughly two-thirds of the research for your thesis should be complete by the end of the fall semester. Winter term and the first half of the spring semester are spent finishing research and writing the thesis. Your thesis is due at the beginning of spring break. You'll be given feedback in April and have roughly two weeks to do minor revisions.

Evaluation

Students are evaluated on the quality of their written exam, oral exam, presentations, and the written thesis. Students who perform satisfactorily in all categories will be awarded honors. Outstanding work may merit the designation of "high" or "highest" honors.

Timeline

Junior year

Discuss projects with potential advisors	Early Spring semester
Proposals due	End of Spring break
Approved projects announced	Mid April

Senior year

Presentations to the faculty	Early December
Theses due	Beginning of Spring break
Presentations to the department	Early April
Honors exam	Mid April
Feedback on theses	Mid April
Revised theses due	Early May