

Computer Science Qualifying Exam

Effective Fall 2023

Goal of the Exam: Assess, as much as is possible, whether the student has the capability and aptitude to do independent, PhD-level work

Process

1. Student notifies Graduate Program Director (via webform) of intent to take Qualifying Exam no later than **4:30 PM two weeks before the first day of class** (e.g., Fall 2023 – Aug. 9).
2. Advisor will identify the topic for the Qualifying Exam and invite 3 committee members.
 - a. The advisor cannot discuss the selected topic with the student before the exam begins.
 - b. The topic can be tangential to the student's dissertation topic, but NOT the same. The advisor can provide a paper as a starting point or just a topic.
 - c. While the student will not yet know the topic for the Qualifying Exam, they can provide input to the advisor when selecting the committee.
3. Advisor sends Qualifying Exam topic to the student, the student's committee, and the Graduate Program Director at **9 AM on the Monday of the first full week of the semester** (e.g., Fall 2023 – Aug. 28).
4. Student has 3 weeks to search the literature about the topic and synthesize the findings.
 - a. It will be the student's responsibility, in consultation with their advisor, to scope the topic up or down as necessary based upon the available literature
 - b. While the work must be the student's own, they should interact with their advisor throughout the three-week period.
5. Student submits the document to the Graduate Program Director no later than **4:30 PM on the Friday at the end of the 3-week period** (Fall 2023 – Sept. 15).
6. The oral presentations will be scheduled together the last week of September of the first week of October (e.g. for Fall 2023 - week of Sept. 25 and Oct. 2)

Deliverables

1. Paper
 - a. Includes a literature review that gives strong consideration to the current state of the topic
 - b. Describes a potential future research direction related to the given topic, motivate why that direction is important, and provide a high-level plan pursuing that research direction
 - c. Focuses on the fundamentals, theory, and algorithmic approaches of the topic area rather than only providing a cursory overview of the topic
 - d. Should be 4-8 pages using IEEE Conference format (not including references)
 - e. Track I Papers must allow the faculty to judge the student's ability to do PhD work as described above
2. Presentation
 - a. Upon successful completion of the Paper, the student will give a presentation to the faculty and graduate students
 - b. The presentation will be 15 minutes + 5 minutes for questions
 - c. The student should be prepared for general questions of a theoretical nature

Evaluation Process - student must pass both the Paper and the Presentation

1. Paper
 - a. Committee members have 1 week to evaluate the paper
 - b. Evaluation is based upon the committees' belief that the student can do independent PhD-level work.
 - c. Paper receives a Pass or Fail from the committee - No opportunity to revise
 - d. There is no expectation that the paper is publishable "as-is". A student can work with their advisor after the exam to expand the paper into a publishable manuscript.
2. Presentation
 - a. Evaluation is based upon the committees' belief that the student can do independent PhD-level work.
 - b. Committee members should focus their questions on trying to determine how well the student understands their topic area and how well they can explain potential future research directions