Ph.D. Qualifying Process

Students who have been admitted to study toward the doctoral degree in computer science must complete the qualifying process and pass the candidacy exam before being considered a PhD candidate. This process may typically take up to 18 months after a student has been admitted to the PhD program and has completed any required prerequisites. The qualifying process has two main components: a demonstration of excellence in breadth and a demonstration of research skills. The goal of the process is to ensure that students are prepared and qualified to undertake PhD-level research in computer science.

All PhD students are required to take and pass CS 800 Research Methods (P/F graded course) during their first year in the PhD program (or within one year of completing required undergraduate prerequisites).

Excellence in Breadth
Excellence in breadth is assessed through graduate coursework at ODU and evaluated by multiple faculty members. To demonstrate this, a student must take four (4) CS graduate courses at the 600 level or above that meet the following conditions:

1. For breadth: At least one course in three (3) different research areas (“Foundations” does not count as a research area)
2. For depth: At least three (3) courses at the 800 level (these courses may also be used to satisfy condition 1)
3. Earn a GPA of at least 3.5 across these four courses
4. The four courses must be regular courses that also earn a letter grade (thus CS 697, CS 800, CS 891, CS 896, and CS 899 do not count towards this requirement). Most CS 895 Topics courses will count towards this requirement, and those eligible will be assigned to an appropriate research area.
5. Courses transferred from another university do not count towards this requirement.

Research Skills
Each PhD student is expected to demonstrate competency in research skills. In the Department of Computer Science, students demonstrate this through academic writing and oral presentation of research. Students may satisfy this requirement by passing the Qualifying Examination or by completing an acceptable Research Event (see below for details) in their first 18 months in the program.

Students who change research areas after satisfying the research skills requirement do not need to satisfy the requirement in the new research area.

Qualifying Examination
The topics and papers covered in the qualifying examination are set by the student’s PhD advisor and other members of the appropriate research area committee. The student will be provided a set of 5-10 papers to review in their research area. The student will write a summary of the papers, highlighting their contributions to the research area, noting how they are related and how they different. The student must also propose areas for potential future work. Ideally, this document could form the basis for the related work section of the student’s candidacy proposal.
After the document has been approved by the area committee, the student will give an oral presentation on the subject to the area committee. At the end of the presentation, the area committee may ask questions to further assess the student’s understanding of the papers. At the end of the examination process, the committee will make a pass/fail decision and report this to the GPD.

The written summary should be 15-20 pages in the standard ODU dissertation format. The oral presentation should be 20-30 minutes long.

The goal of this exam is to assess the student’s understanding of the content of the papers and the student’s ability to critically analyze and articulate the important issues raised in the papers. The student should also be able to identify potential areas for future research that build off of these papers.

A pass decision means that the area committee believes that the student is prepared and qualified to undertake PhD-level research in computer science.

A fail decision means that the area committee believes the student is not ready to undertake PhD-level research in computer science. The area committee should provide recommendations to the student on how to improve their performance. A student who fails the Qualifying Examination may retake the exam once or may attempt the Research Event option once. Two failures will result in the student being dismissed from the PhD program. The student may request a different set of papers to be assigned for a retake.

Research Event
Students who enter the PhD program with an acceptable MS thesis or are first author on a high-quality academic submission within their first 18 months in the program may be able to satisfy the research skills requirement without taking the Qualifying Exam. Each research area committee determines its own set of conferences and journals in their research area that would be acceptable.

If a student is first author on a submitted paper to an approved conference or journal in their first 18 months and it is accepted for publication, the research area committee may approve it to count as the written portion of the research skills requirement. If approved, the student must present the work to the research area committee to satisfy the oral portion of the research skills requirement.

If a student is first author on a submitted paper to an approved conference or journal in their first 18 months, but the paper is rejected, the research area committee may approve it as the baseline for the written portion of the research skills requirement. In addition to the submitted paper, the student must construct a document that outlines how the student would address the reviewers' comments. For the oral portion of the research skills requirement, the student must present their paper along with how they will address the reviewers' comments.

For either option, at the end of the presentation, the area committee may ask questions to further assess the student’s understanding of the research and related work. At the end of the examination process, the committee will make a pass/fail decision and report this to the GPD.

A pass decision means that the area committee believes that the student is prepared and qualified to undertake PhD-level research in computer science.

A fail decision means that the area committee believes the student is not ready to undertake PhD-level research in computer science. The area committee should provide recommendations to the student on
how to improve their performance. A student who fails the Research Event option may attempt the Research Event option once more before the 18-month deadline or may take the Qualifying Exam once. Two failures will result in the student being dismissed from the PhD program.

To use the Research Event option, the student must provide the GPD and the chair of the appropriate research area committee a copy of the document proposed to satisfy the requirement. The document will be evaluated by the area committee to determine if it meets the stated criteria. The chair of the area committee will notify the student and the GPD of the outcome of the evaluation (acceptable or unacceptable). If the publication is deemed unacceptable, the student may submit another publication or take the Qualifying Examination. This does not count as an attempt.

If a student is not first author on a submitted paper to an approved conference/journal within their first 18 months, they must take the Qualifying Examination within the next 6 months.