



PhD Research Competency Exam (RCE)

The PhD RCE requires PhD students to learn and demonstrate their research potential as well as have the necessary skills to conduct their PhD studies. These include the ability to perform a literature review, understand and synthesize research topics, conduct independent and collaborative research to the standards of the chosen discipline, and communicate the findings in a scholarly fashion.

The student will be evaluated with respect to two questions through the RCE:

1. Has the student demonstrated scholarship and potential to conduct original research?
2. Has the student demonstrated the ability to communicate technical content effectively to a general computer science audience?

RCE Guidelines

Research Topic Assignment

- The research advisor assigns a research topic to the student. The student may also receive an initial selection of relevant literature. The project should be designed to evaluate the student's ability and potential to independently conduct research at a level commensurate with his/her education.
- A student may submit and orally present their own submitted or published research for RCE requirements.

Written Report and Oral Presentation

- The student will prepare an ACM/IEEE style written report and an oral presentation of the project results. The research advisor may provide feedback during the preparation of the written report, but the report should be substantially the student's own work.
- The report should include a statement of the problem, present a critical survey of relevant methods and existing state of the art solutions to the problem, present their own methods and proposed solution, results, and discussion.
- The length of the report should be similar to a standard paper in the research area.
- The report shall be submitted to the student's RCE committee at least one week prior to the RCE exam. The presentation does not need to be submitted.
- The RCE exam consists of a public presentation of the project, followed by a closed-door oral examination. The following is a recommended time breakdown not to exceed 45 minutes total:
 - 20-25 minutes: Presentation
 - 15-20 minutes: Question/Answer
 - 5-10 minutes: Committee Internal Discussion
- The student's RCE committee (typically 3 members) is selected from three RCE-task-force committees appointed by the department chair, and the specific composition of the student's RCE committee will be coordinated by the academic advisor in the department.

RCE Date and Outcome

- The student will be evaluated by the committee using the rubric on the *RCE Evaluation Form*. The student will either pass or fail. This decision, based on a majority vote of the committee, will be communicated to the student within one week following the exam.
- The RCE exam must be completed by the end of the third long term of the PhD program.
- The Fall RCE deadline is the second or third Friday of November, and the Spring RCE deadline is the second or third Friday of April. The exact date will be announced at the beginning of the respective semester.