

Qualifying examination: **Please contact Kathy Forwood, the Academic Advisor for Materials Science for additional information and forms regarding the Ph.D. Qualifying Exam.** Candidates for the Ph.D. degree are required to demonstrate proficiency in the knowledge of materials science by passing the qualifying examination. This is administered at the request of the student/advisor and consists of a comprehensive written and oral research project review on a topic chosen by the candidate and his/her advisor. The written part should contain no more than 15 pages single-spaced (12-pt. Font), not including the bibliography. The oral presentation should be approximately 30 minutes in length. Both the written and oral presentations should include, but are not limited to, discussion on the following topics/issues:

- a. Motivation and Significance of the Research
- b. Definition of the Critical Issues
- c. Literature Search/Bibliography
- d. Research Objectives
- e. Outline of the Experimental/Theoretical Approach
- f. Anticipated Results
- g. Timeline (sequence of accomplishments and milestones)
- h. Metrics to Determine the Successful Outcome of the Research
- i. Relevant Supporting Preliminary Data
- j. Potential Impact (scientific or technological)

The oral exam is designed to evaluate comprehensive knowledge in materials science and engineering, “soft” skills, e.g., communication, awareness of market-driven technology, etc., and the ability to organize and plan a project. Thus questions during the oral exam will not only be directed towards the research topic but can also be directed toward peripheral materials issues related to the proposed research. Full time students entering the Ph.D. program with a Master’s Degree are expected to take the qualifying examination and set up a Qualifier/Dissertation Committee in their first five semesters. Under certain circumstances, an extension is possible upon request to and approval of the research advisor and Department Chairperson. The Qualifier/Dissertation Committee will contain the student’s advisor(s) and at least three other faculty, at least one of whom is not a member of the Materials Science and Engineering Faculty. Within the first two years, students will be admitted to candidacy based on three criteria:

- a. Results of Qualifying Examination"
- b. Successful completion of the required courses with a GPA of **3.00** or higher.
- c. Satisfactory research progress as determined by the candidate’s qualifier/Dissertation Committee.

Admission to candidacy decisions will be made by the Department Chairperson with advice from the Departmental Graduate Committee. For those who enter the program with a M.S. or equivalent or those exceptionally well qualified students (with a B. S. degree or equivalent) wishing to directly enter the Ph.D. program, they will have until the end of January of their second year (a second and final chance by June 1 in the same year if performance on first exam is unsatisfactory) to take the Qualifying examination.