

Rubric for Qualifying Exam for MS Thesis and PhD students

The qualifier is described in detail in the graduate handbook. A week before the exam, students must turn in a document, written entirely independently without faculty or postdoctoral student help, in the form of an NSF proposal to address a research question. Graduate students are allowed to talk with other graduate students in the program about the proposals. The student at the exam provides a short (20 minute) overview of the project and responds to questions from the panel regarding the project. The rubric, below, is used to assess the performance on the written and oral presentation.

Students are expected to take the qualifier at the end of the first year, and the proposal may be drawn from their rotations or their first year research as direct admits.

| Component | Does not meet expectations | Meets expectations | Exceeds expectations |
|---|---|---|--|
| Motivating the work | The reasons for the work are not covered or only minimally covered | Big picture presented. Reasons for research question laid out | Motivation is clear and documentation and/or data is used to show the importance and need for the work |
| Defining the specific research question | Not clear what problem is going to be addressed | Clear what problem is being addressed | Clear what specific problem is being addressed |
| Background | Limited background. No context. Limited or no signs of critical thinking regarding other work. | Relevant papers and work are cited and understood. | Relevant papers and work are cited, understood, and evaluated critically |
| Experimental design and analysis | Experiments and analysis are not clear Experiments are not tied to research question Alternatives are not presented | Clear experiments and analysis with specific anticipated results and alternatives tied to research question | Rigorous design of experiments and analysis that not only include alternatives but are designed so that a negative finding is still very informative |
| Integration with core material | Core material is not understood well or not connected to proposal | Core material is referenced and relevant parts are used to strengthen proposal | Core material is used to gain new and potentially important insights into field |
| Writing | Writing is unclear Organization is poor | Writing is clear Organization is logical | Writing is at the level of a fundable grant |
| Presentation | Slides hard to read Organization poor Speaker cannot be heard clearly | Slides are clear Presentation organized Speaker projects | Presentation equivalent to talk at national conferences |

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| Questions | Does not understand questions Is not able to answer questions | Understands questions Answers questions, potentially with some clarifications | Understands and responds to questions as well as gives context to larger issues around questions |
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Comments:

Pass or Fail:

