

Qualifying Exam Evaluation

Within two business days of the oral examination, the Qualifying Examination Committee should return a signed copy of this form to the EER Graduate Coordinator, eer-grad-coordinator@umich.edu. Within three weeks of the oral examination, the EER Program should inform the student about the outcome.

Student: _____ UMID: _____

EER Faculty Advisor: _____

Qualifying Exam Committee (two EER faculty members, neither of whom is the EER Faculty Advisor):

Member 1: _____

Member 2: _____

Date *Statement of Preparation* (1 page) received: _____

Date *Written Research Proposal* (30 pages) received: _____

Title of research topic: _____

Date of *Oral Examination*: _____

Format of *Oral Examination* (e.g., in-person, virtual): _____

To successfully complete the Qualifying Examination, students must demonstrate the following:

- (a) **A suitable research topic and plan.** Students must present a written research proposal which will be evaluated by the *Qualifying Examination Committee* and defended in an oral examination.
- (b) **Academic preparation.** Students must show that their completed (and planned) coursework provides sufficient breadth and depth of academic preparation to conduct the proposed research.
- (c) **Research ability.** Students must demonstrate that they have acquired skills and abilities required to complete the proposed research through directed study projects, conference presentations, and/or other research experiences.

The Qualifying Examination consists of a **written research proposal** accompanied by an **oral examination**.

Written Research Proposal Requirements

- A brief, descriptive title, the student's name, and the date of submission;
- A justification for the study, with citations to current and relevant literature, demonstrating that the research questions are important, they have not yet been answered sufficiently, and the expected answers are reasonable;
- A short set of clear research questions that can be answered with qualitative or quantitative data and (if applicable) a related set of propositions outlining the expected answers to the questions (e.g., hypotheses);
- Theoretical and/or conceptual frameworks that inform the proposed research study; and
- A detailed description of the research methods, with an articulation (supported by citations) of how the methods are guided by best practices, including:
 - A mapping to demonstrate alignment of research questions, data collection approaches, and analysis methods;
 - Information about data collection, including plans for recruitment, expected participant sample, approaches for data collection, existing or to-be-developed research instruments (including example items) to be used, and plans for piloting (if applicable);
 - Summary of data already collected;
 - Plans for analysis, including an overview of steps to synthesize, analyze, and interpret data collected; and
 - A two- to three-year timeline showing how this study might be completed.

Oral Proposal Requirements

The two-hour oral examination should occur between April 10–30 or December 1–20, and it should allow a student to demonstrate expertise and knowledge through an oral presentation and defense of the proposed research. The *Qualifying Examination Committee* will review the student’s written research proposal and statement preparation and will conduct the oral examination to evaluate the student’s research ability and potential. During the two-hour oral examination:

- The Qualifying Examination Committee will meet privately to review the student’s file;
- The student will make a brief, 20- to 30-minute presentation of the proposed research (in a presentation format of their choice), with limited interruptions from the committee (note: the student should share the presentation slides with the committee in advance of the presentation);
- The committee will ask questions about the proposed research and about specific knowledge and skills gained through relevant academic coursework or research experiences (note: the student is welcome to record the Q+A portion of the qualifying exam – for personal use only – and comments made during the Q+A must be placed in the context of final written feedback; and
- The student will be dismissed while the *Qualifying Examination Committee* discusses the student’s written research proposal and oral presentation and deliberates in private on the outcome of the Qualifying Examination, using the attached rubric.

The Qualifying Examination Committee should submit the completed evaluation form to the EER Graduate Chair and Coordinator within 2 business days of the oral examination, and the EER Graduate Program Office will inform the student of the outcome within three weeks of the oral examination. The committee may also share additional notes and feedback with the student.

Recommendation of the *Qualifying Exam Committee*

- Pass:** The student’s work shows preparation for designing a formal proposal in partnership with her/his advisor.
- Pass with required revisions:** The student’s work indicates near-preparation for designing a formal proposal in partnership with her/his advisor. The committee requires specific but not significant revisions to this work in order for the student to move to doctoral research.
- Fail with option to re-take:** The student has not demonstrated satisfactory potential to perform doctoral research. However, the student may retake the Qualifying Examination at the next available opportunity (e.g., the following April for a student who attempts it in the fall term). If the student does not successfully retake the Qualifying Examination during the next academic term, the grade becomes a Fail. A student may not earn a grade of Fail with option to re-take on the second attempt.
- Fail:** The student has not demonstrated satisfactory potential to perform doctoral research and is not permitted to register for additional terms as a Pre-Candidate. However, a student who is eligible to receive an EER Master’s Degree and who is missing specific courses may register for a maximum of one additional term to complete this degree. A student who fails the Qualifying Exam is dismissed without probation at the end of the term in which the Qualifying Examination is taken. In this case, the level of funding will continue through the term in which the Qualifying Examination is failed.

Signature of *Qualifying Exam Committee*:

Member 1: _____

Member 2: _____

Signature of EER Program Director: _____ Date: _____

Notes to be shared with student:

A large, empty rectangular box with a thin black border, intended for handwritten notes to be shared with a student. The box occupies most of the page's vertical space.

Rubric for EER Qualifying Examination (a completed version of the rubric **will not be shared** with the student)

	Does not meet expectations	Insufficiently meets expectations	Meets expectations	Exceeds expectations
<i>Justification for study</i>	Does not identify or does not clearly identify a need to be addressed by proposed research	Identifies a general (rather than specific) need to be addressed by proposed research	Identifies a clear and specific need to be addressed by proposed research	Identifies a clear and specific need to be addressed by proposed research
	Provides an insufficient review of current and relevant research literature	Provides a general review of research literature that includes out-of-date and/or irrelevant literature	Provides a general review of current and relevant research literature	Provides an in-depth review of current and relevant research literature
	Offers insufficient justification for the research focus	Offers a justification for the research focus that lacks detail, clarity and/or persuasiveness	Offers a justification for the research focus that explains its relevance and importance to engineering education	Offers a strong justification for the research focus that demonstrates deep understanding of its relevance and importance for engineering education
<i>Theoretical and/or conceptual framework to inform the study</i>	Provides an overly general and/or unclear explanation of the framework	Provides a brief and/or general explanation of the framework, perhaps leaving unanswered questions	Provides a complete explanation for the framework	Provides a comprehensive explanation for the framework
	Does not offer a persuasive rationale for the framework	Does not offer a persuasive rationale for the framework	Offers a generally persuasive rationale for the framework	Offers a persuasive rationale for the framework
	Does not clearly explain linkages among framework elements	Does not clearly explain linkages among framework elements	Explains linkages among framework elements through references to relevant theory and/or research	Explains linkages among framework elements by demonstrating significant insights into the problem and/or extant literature
<i>Research design and support for design choices</i>	Articulates an overly general research design that does not connect with literature review	Articulates a general research design that does not logically connect with literature review	Articulates a clear research design that generally connects with literature review	Articulates a clear research design that logically connects with literature review
	Does not adequately support design choices (e.g., research sites, samples, data sets or data collection, analysis)	Does not adequately support design choices	Adequately supports design choices	Clearly supports design choices through detailed explanation
	Does not describe sufficient linkages between design elements the proposed framework and/or literature	Does not describe sufficient linkages between design elements and the proposed framework	Describes sufficient linkages between design elements and the proposed framework	Describes strong linkages between design elements and the proposed framework
	Does not address challenges and/or limitations of proposed research design	Does not sufficiently address challenges and/or limitations of proposed research design	Addresses potential challenges and/or limitations of proposed research design, but further detail would strengthen arguments	Thoughtfully addresses anticipated challenges and/or limitations of proposed research design
	Does not include clear, feasible timeline	Does not include clear, feasible timeline	Includes adequate timeline	Includes clear and feasible timeline

Rubric for EER Qualifying Examination, continued

	Does not meet expectations	Insufficiently meets expectations	Meets expectations	Exceeds expectations
<i>Plan for data collection and analysis</i>	Does not present plan for data collection	Presents an overly general plan for data collection	Presents an adequate plan for data collection	Presents a comprehensive plan for data collection
	Does not adequately summarize data already collected (if relevant)	Does not adequately summarize data already collected (if relevant)	Adequately summarizes data already collected (if relevant)	Clearly summarizes data already collected (if relevant)
	Provides insufficient details about plans for data analysis	Provides insufficient details about plans for data analysis	Provides sufficient details about plans for data analysis	Provides clear and comprehensive plan for data analysis
	Reveals inadequate understanding of proposed analysis methods	Reveals inadequate understanding of proposed analysis methods	Reveals adequate understanding of proposed analysis methods	Reveals in-depth understanding of proposed analysis methods
	Does not demonstrate alignment between data analysis plan and stated research questions	Does not demonstrate sufficient alignment between data analysis plan and stated research questions	Demonstrates sufficient alignment between data analysis plan and stated research questions	Demonstrates clear alignment between data analysis plan and stated research questions
	Does not sufficiently address validity threats	Does not sufficiently address validity threats	Addresses validity threats, but needs further discussion	Thoughtfully addresses specific validity threats
<i>Organization, structure, and language</i>	Is organized and structured in an unsatisfactory way	Is not organized and structured in a satisfactory way	Is organized and structured in a satisfactory way	Is well organized and intuitively structured
	Has problematic sentence and/or paragraph structure that interfere with presentation of ideas and arguments	Has sentence and/or paragraph structure that sometimes interfere with presentation of ideas and arguments	Has sentence and/or paragraph structure that clearly presents ideas and arguments	Has exemplary sentence and/or paragraph structure that clearly presents ideas and arguments and is engaging and interesting
	Includes excessive grammatical and/or typographical errors	Includes occasional grammatical and/or typographical errors	Includes few if any grammatical or typographical errors	Does not include grammatical and/or typographical errors
<i>Academic preparation and research ability</i>	Demonstrates inadequate depth and breadth of prior coursework	Does not demonstrate adequate depth and breadth of prior coursework	Demonstrates adequate depth and breadth of prior coursework	Demonstrates exemplary depth and breadth of prior coursework
	Provides insufficient evidence of skills and abilities required to complete the proposed research, typically acquired through directed study projects, conference presentations, and other research experiences	Does not provide sufficient evidence of skills and abilities required to complete the proposed research	Provides evidence of sufficient skills and abilities required to complete the proposed research	Provides evidence of exemplary skills and abilities required to complete the proposed research (e.g., has completed a pilot study)
	Does not demonstrate sufficient familiarity with any elements of the proposed research (e.g., research sites, samples, data sets or data collection, analysis)	Does not demonstrate sufficient familiarity with all elements of the proposed research	Demonstrates sufficient familiarity with most elements of the proposed research	Demonstrates sufficient familiarity with all elements of the proposed research (e.g., has done prior work with the types of research sites, data, or analyses proposed)
<i>Overall assessment</i>	Demonstrates unsatisfactory potential to perform doctoral research	Does not demonstrate satisfactory potential to perform doctoral research	Demonstrates satisfactory potential to perform doctoral research	Demonstrates exemplary potential to perform doctoral research