

EME Comprehensive Examination Policy

Purpose

To establish the content, form, scheduling, and reporting requirements for PhD Comprehensive Examinations in the Energy and Mineral Engineering Department.

Academic Goal

The purpose of these examinations is to evaluate the student's appropriate mastery of the major field, and to determine whether the student is prepared to succeed in their dissertation research.

Scope

All EME PhD students.

Background

The comprehensive examination marks the point at which a PhD student's advisory committee judges the preparedness of the student for proceeding with their research and advancing to the level of a PhD candidate. To do so, the student examinee must demonstrate appropriate mastery of their major field and effectively develop and communicate a feasible plan for research that is novel and impactful in their particular area of expertise.

The Penn State Graduate School policies previously set limits on remote participation such that only a single committee member could participate in comprehensive via teleconference or video conference. The examinee and all other committee members were required to be present in-person on campus. During the COVID-19 pandemic, the Graduate School relaxed these policies allowing all committee members and student examinees to participate in these exams remotely via video conferencing. However, beginning in Fall 2022, these flexible remote participation guidelines were rescinded, and the policy reverted to its previous form. Effective 8 May 2023, the Penn State Graduate School revised comprehensive exam policy permits departments to establish their own guidelines on remote or in-person participation for these exams.

Related University and Graduate School Policies

GCAC-606 Comprehensive Examination – Research Doctorate

Policy Statement

1. The responsibility for scheduling the comprehensive examination rests with the student and the PhD committee chair/research adviser.
2. The following limits on scheduling comprehensive examinations apply:

- a. A student must have passed their qualifying examination in their currently enrolled PhD program.
 - b. A comprehensive examination must be scheduled following the completion of all required coursework as well as any committee-required coursework.
 - c. A comprehensive examination must be scheduled no later than 5 years following the passing of the qualification examination. It should be scheduled within one year following the completion of all required coursework.
3. To schedule an examination, the student must currently be enrolled as a full-time or part-time student and be in good academic standing with an overall grade-point average of 3.00 or higher at the time of the examination.
 - a. Students may not have any deferred or missing grades for the purpose of this determination. A student with deferred or missing grades must resolve those grades prior to scheduling their examination.
4. The examination must be scheduled at least two weeks prior to the date of the examination.
5. The student and adviser must agree on the mode of the examination including all in-person, all remote, or hybrid (partially in-person and remote).
 - a. Those participating remotely must use University-licensed interactive audio-video technology, where possible. If unable to connect with video, audio-only participation is allowed.
 - b. When the student and adviser cannot agree on the mode of the examination, the EME Associate Department Head for Graduate Studies will make the final decision. Either the student or adviser can appeal the decision of the EME Associate Department Head for Graduate Studies to the EMS Associate Dean for Graduate Education and Research (ADGER).
 - c. The participation mode must be communicated to all committee members at the time of scheduling, at least two weeks prior to the date of the examination.
 - d. Unanticipated changes to the examination mode that occur after scheduling for any reason (due to student or committee member travel disruptions, for example) must be agreed to by the student and adviser and a majority of the examination committee. If agreement cannot be reached, the EME Associate Department Head for Graduate Education will make the final decision. Either the student or adviser can appeal the decision of the EME Associate Department Head for Graduate Studies to the EMS Associate Dean for Graduate Education and Research (ADGER).
6. All committee members must participate in the examination.
7. Prior to the examination, the student shall provide a written research proposal to their committee that describes the scope of the research to be completed in order to earn their PhD. The format of the proposal is defined in the EME Comprehensive Exam Procedure. The content of that proposal should include the following:
 - a. The results of preliminary research work conducted by the student supporting the proposed body of work,
 - b. A detailed plan for the remainder of the body of research that will eventually constitute the student's PhD dissertation.

8. On the date of the examination, the student examinee will conduct an oral presentation of their proposed research and preliminary work. This presentation will be followed by a question-and-answer session between the student and the committee which may cover details and motivations of the proposed research as well as related fundamentals of the field.
9. The scope of the examination shall consist of an evaluation by the committee of the readiness of the student examinee to successfully conduct the proposed research and their mastery of the major field based on their written proposal, their oral presentation, and their responses during the question-and-answer session.
 - a. The student has demonstrated appropriate mastery of the fundamental skills and knowledge relevant to their domain of research.
 - b. The student has formulated a set of original research questions and/or hypotheses that, when addressed, will positively contribute to the body of knowledge in their domain.
 - c. The student has demonstrated the feasibility of accomplishing the proposed research.
10. A favorable vote of at least two-thirds of the committee members is required to PASS the examination.
11. The results of the examination must be reported, regardless of the outcome, within five business days following the end of the examination.

Procedure

Students and PhD committee members must follow the following department procedures when preparing for, announcing, conducting, and reporting the results of these examinations:

- EME Comprehensive Examination Procedure

Revision History

21 APR 2023	Original publication of this policy. Accepted based on a vote of the EME department faculty on 21-APR-2023. No previous documented comprehensive exam policy existed.
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