

**Implementation of the Ph D Qualifying Exams Policy of the  
Department of Geological and Mining Engineering and Sciences  
Programs in Geological Engineering, Mining Engineering, and Geology**

The new PhD policies have been approved as they are shown in the document dated 19 January 2007. This page is intended to provide some framework in which to implement those policies.

Transition period: Students who have been preparing for their Ph D Qualifying Exams (consisting of a “comprehensive” written and an oral exam based on a proposal) over the past semester (Fall 2006) may continue with the agreements reached between them and their committees for completion in Spring 2007, or they and their committees may decide to follow the new policies – this decision is up to the students and their committees. All other students must comply with the policies as written.

Recall the following sequence of events concerning grad school forms:

Acceptance into Doctoral Program (from MTU MS).....First week of the first term  
Advisor & Committee Recommendation Form.....During 2<sup>nd</sup> term of residence

By the end of the semester prior to Ph D Exams, committee must inform student of the material to be covered on the written exam. The schedule for the written exam should leave time for the Research Proposal Exam to also occur within the first two years of residence. (The Comprehensive Exam is a written exam in this department and is sometimes called the “written” and the proposal exam is sometimes called the “oral”.) The outcome of the Comprehensive Exam is reported on form D4:

**D4** – Report on Comprehensive Examination ..... Within first 2 years of residence

As a result of the student’s performance on the Comprehensive Exam, additional courses may or may not be required. In any case, the D5 form for degree course schedule must be submitted at least one semester prior to the final dissertation defense and completion of degree; a good time to complete it is shortly following the Comprehensive Exam.

**D5** – Degree Schedule ..... Prior to the semester of the final dissertation defense

If the student and committee agree, the committee may not be identical for the Research Proposal Exam and final defense of the dissertation as it was for the Comprehensive Examination. This may occur in rare instances, and a new D4a should be submitted.

If the student has successfully completed the Comprehensive Examination, the Research Proposal should be written and an oral exam concerning it will be scheduled. Ideally, this is the result of work that has been ongoing, with origins prior to the Comprehensive Exam. (The Research Proposal Exam is sometimes called the “oral”.) The outcome of the Research Proposal Exam is reported on form D6:

**D6** – Approval of Dissertation Proposal..... Within first 2 years of residence

Then, all that is left is the research, publications, dissertation, and its defense, with the **pre-defense form** and **D8** (report on defense of dissertation).

## **PhD Comprehensive Examination (the “writtens”)**

Goal: To ensure candidates for the Ph.D. degree in Geological Engineering, Mining Engineering, or Geology have a sufficient knowledge base to undertake independent research leading to a dissertation.

Possible results: Pass/Fail. A student failing the written exam may be allowed, at the discretion of the student’s committee, to retake the exam or portions thereof once.

Schedule: Taken on Saturday of the seventh week of classes during fall or spring semesters, within the first two years of enrollment in the PhD program. The two-year time limit can only be extended under extremely extenuating circumstances, which must be approved by the student’s committee, the graduate committee, and the chair of the department.

Material: To be determined by the committee in light of the student’s interests and research intentions, after consultation with the student. The material to be covered in the exam must be outlined by the committee no later than the end of the semester prior to the one in which the exam is to be taken. The student must also be informed of the objects (books, notes, computers, calculators, etc) that will be allowed into the open-book part of the exam.

Exam style: All students taking the exam in any given semester will do so at the same time and place, and one proctor will be provided. The exams will not necessarily be identical among the students. A morning session will usually consist of a written exam, closed-book, with questions provided by the committee, covering basic material that a researcher at this level should be expected to know and use without reference to outside material. An afternoon session will usually consist of a written exam, open-book, with questions provided by the committee, covering material that a researcher at this level should be expected to integrate from various sources.

Additional guidelines: It is highly recommended that the student meet at least twice with each committee member prior to the end of the semester preceding the comprehensive exam; the purpose of these meetings should be, in part, to share knowledge and expectations, in order to ensure that the student has provided sufficient input for the committee member to create meaningful exam questions, and to assist the student in developing a coherent plan of study. While it is expected that the committee members will be highly cooperative in this endeavor, the scheduling of these meetings is the responsibility of the student.

## **Ph.D. Research Proposal Examination (the “orals”)**

Goals: To ensure that the student has planned research that will result in new knowledge and understanding; to ensure that the student has clearly thought through the process of the research to be undertaken as part of the dissertation; to ensure that the committee feels prepared to support the research plan proposed; to ensure that the student is prepared to undertake this research; and to provide a formal opportunity for feedback on research plans by the entire committee.

Possible results: Pass/Fail. A student failing his or her research proposal exam may, at the discretion of the student’s committee, be allowed to be re-examined on a research proposal; in this case, the student’s committee will specify the remedial action that the student must undertake before taking a research proposal exam a second time.

Schedule: Taken at any time following successful passing of the Comprehensive Exam, but must be taken prior to the end of the second year in the PhD program. The two-year time limit can only be extended under extremely extenuating circumstances, which must be approved by the student’s committee, the graduate committee, and the chair of the department.

Material: The student will write and be examined on a proposal describing the research expected to form the basis of the dissertation. In many cases, this proposal will be a short (perhaps ten-page) description of the research to be undertaken, following guidelines provided by the committee, which will usually be similar to those pertaining to the technical section of a proposal to a funding agency or foundation that is appropriate to the research topic. In order to provide a more meaningful experience for students who have not yet been involved in proposal preparation with his or her advisor, the committee may require a more complete and expanded proposal, similar to a formal research proposal, with budget sheets, vitae, and so forth, in addition to the technical section.

Exam style: The exam consists of the written proposal and an oral examination. The written proposal will ideally be the product of many iterations, but the final version must be submitted to the committee at least one week prior to the oral exam. The oral exam will consist of a short presentation (about half an hour) followed by a question-and-answer period conducted by the committee.

Additional guidelines: The style of the proposal and its examination will vary greatly among the various disciplines represented within the department. Each committee should clearly express its expectations to the student well in advance of the proposal preparation, although it is the responsibility of the student to make sure that appropriate meetings to discuss this are scheduled. In many cases, the Research Proposal Examination will take place shortly after (within a couple of weeks, perhaps) the Comprehensive Exam has been passed, and the committee and student will have been planning for and working toward both components simultaneously.