

PhD Qualifying Process Department of Geophysics

As set forth in the Graduate Bulletin of Colorado School of Mines, within the first two calendar years after enrolling into a PhD program a student is required to “demonstrate adequate preparation for, and satisfactory ability to conduct, doctoral research.” In the Department of Geophysics this demonstration is a two-part qualifying exam.

Qualifying Exam, Part I

1. Under the supervision of a Geophysics faculty member, the PhD student performs research which shall result in a manuscript to be submitted in a peer-reviewed journal. This submission of the manuscript must occur prior to a student scheduling Part II of the Qualifying Exam (Thesis Proposal Defense). The manuscript is defended by the student in front of his supervising committee and peers in the same manner as a thesis.
2. Research conducted for a masters thesis at CSM may be used to generate a manuscript that is submitted for publication and defended as described above to meet the requirements for Part I of the Qualifying Exam. In this case, the student must have his / her PhD committee appointed and present at the defense.
3. Research conducted for a masters thesis at an institution other than CSM can also be used to generate a manuscript that is submitted and defended to satisfy Part I of the Qualifying Exam, provided there is a CSM Geophysics faculty member who is willing to supervise the student in this activity. In this case, the student must have his / her PhD committee appointed and present at the defense.

Qualifying Exam, Part II

1. Under the supervision of the advisor and the thesis committee, a PhD student researches and prepares a thesis proposal in a format that is consistent with formal proposals submitted for funding either (a) to agencies such as NSF, or (b) to industry. Lengths of thesis proposals will vary, but they will normally include, but not be limited to, at least the following elements:

- Project Summary/Abstract
 - Project Narrative, including:
 - Introduction. What is the research problem/question?
 - Background. Why is this problem important? What related work has already been done by others? What are the key references describing this previous work?
 - Outline. What are the key steps or stages in this research? Give a brief description of each.
 - Method. What approach or method(s) will be used to solve the research problem?
 - Obstacles. What significant obstacles or challenges do you anticipate that could prevent you from success, and how do you expect to overcome them?
 - Budget. Assume you are not already funded. What is an appropriate budget to cover your costs in performing this research?
 - Timeline. What is the timeline for the research, including your estimates of key milestones, decision points, defense, graduation?
 - Publications. How many publications do you imagine will be generated by this thesis, and on what aspects or sub-topics of the overall research?
 - Bibliography and references cited.
 - Biographical sketch.
2. The student defends the thesis proposal before his/her committee and peers in the same manner as a thesis.
 3. The faculty believes a PhD student should work more independently on the thesis proposal and require less supervision than for Part I of the Qualifying Exam.