

Prelim Exam Guide

Department of Earth and Space Sciences– Research Program

Purpose

The Prelim Exam is a requirement of ESS for every graduate student in its research program. It is only one component of the information the Department uses to evaluate admission to the Ph.D. program early in the second year of a student's graduate program. Along with the first-year research seminar sequence, the Prelim Exam is used to encourage students to learn how to develop and present a research project, and get an early, structured start on graduate research.

For the Prelim Exam a graduate student must demonstrate:

- Ability to think critically, logically and creatively and to communicate effectively
- Knowledge of the disciplines that underlie the student's general area of interest (e.g., geology, geophysics, physics, math, chemistry, biology, etc.)

All entering graduate students (both M.S. and Ph.D.) must present and defend a Research Proposal before a Student Evaluation Committee (SEC) at the beginning of their second year in the Department of Earth and Space Sciences. Prelim Exam dates are established by the department and communicated to students in advance. Fall exam dates will generally be the week prior to the beginning of Autumn Quarter. The Committee will consist of two co-chairs, four additional faculty members and two student observers. The Committee assigned to each individual student will consist of one of the co-Chairs, two of the other faculty members, the student's advisor(s) and one of the student observers. An important role of the co-Chairs and the student observers is to provide calibration among exams and an overview of the relative quality and fairness of exams among the students.

Student preparation for the exam during the first year should involve:

- Significant faculty research mentorship
- Projects and oral presentations in courses
- Presentations by first year students in a Spring Quarter seminar (ESS 594)
- Practice Proposal Defenses conducted by students

Documents required: Two weeks prior to the first day of Autumn quarter classes, students are required to submit all of the following items to the Student Services Office (via a catalyst dropbox). **You must have prior approval from the exam committee in order to submit late materials.**

- A letter of evaluation and support by the student's advisor(s) that evaluates the student's progress to date and his/her potential for completing a graduate degree here. The letter should specifically address performance in graduate level classes, and the results of consultation with instructors of those classes for which the student's performance was not satisfactory. The letter should be addressed to the Student Evaluation Committee and given to the student for submission.
- One unofficial copy of the student's transcripts showing coursework taken to date at the University of Washington. UW Transcripts can be downloaded from "MyUW".

- Their Research Proposal for distribution to the SEC. (See information below on preparation of the Proposal.)
- A CV (max 3 pages). The CV should include prior degrees and fields, as well as publications, awards, funding, and service as applicable. A template with examples is provided on the guide page.

How to Prepare the Research Proposal and Defense

The student will prepare a Research Proposal with a maximum of 3 single-spaced pages of text. A maximum of 5 additional pages may contain references and figures. Proposals should begin with a concise statement of a tractable research goal. This should be followed by a brief review of the important background and a short discussion of the analytical approach.

The topic of the Research Proposal should be limited in scope; it should not be confused with the Ph.D. Dissertation proposal presented by students at their University Ph.D. General Exam. The topic of the Proposal could be new to the student, be an extension of previous experience or be pursued in future research. The independent formulation of Research Proposals by students is encouraged, as is interaction with others, such as the student's advisor.

Structure of the Prelim Exam

Immediately prior to the Exam, the SEC will meet with the student's advisor to briefly review the student's first year of graduate work and the relation of the proposal to planned thesis research.

The oral presentation part of the Exam will then begin and is open to all members of the Department. A schedule of all exams will be posted. This part of the exam will start with a twenty-minute presentation by the student.

The general audience will have an opportunity to ask a few questions, and then all are excused except the SEC, advisor and student for further questions.

Committee questions may address both the specifics of the Proposal and the fundamentals underlying the general area of the Research.

After completion of the exam, the student is excused, and the SEC (including the graduate student representative) and the student's advisor discuss the results and develop any recommendations.

The advisor and graduate student representative are then excused and the remaining committee members vote on the outcome. The outcome is based on 1) student's ability to pose and write a research problem, 2) presentation of the research problem, 3) ability to reason through complex questions during discussion, and 4) appropriateness of background knowledge.

The student's advisor is encouraged to promptly communicate to the student the recommendations and evaluations made during the discussion following the exam. The official

results are communicated to the student by the Graduate Program Coordinator after the Department votes on admission to the ESS graduate program in Executive Session of a faculty meeting, based on the SEC's recommendation. This recommendation incorporates 1) the results of the Prelim Exam, 2) the student's first year class performance, 3) definition of a research direction, 4) written and verbal evaluation by the student's advisor, and 5) any other relevant information.

Possible Outcomes of the Proposal Defense

- Pass. Proceed in research towards the Ph.D.* A student still has the option to first pursue an M.S., or may proceed directly towards a Ph.D. after consulting with their First Year Committee.
- Pass. Proceed in research towards the Ph.D.* after completing conditions set by the SEC. A student may either choose to complete the conditions and pursue a Ph.D. or choose to pursue a M.S. after consulting with their First Year Committee. If after receiving a M.S. a student wishes to continue towards the Ph.D., they may either complete the conditions laid out by the SEC, or petition (see Petition to Ph.D. below).
- Pass. Proceed in research toward the M.S. To enter the Ph.D. program candidate must petition the department prior to the M.S. defense (see Petition to Ph.D. below). The SEC may assign additional conditions as needed.
- No decision at this time. The student must first complete the recommended next steps, which may include retaking the exam with or without the presentation, preparing to answer questions on specific topics, resubmitting the written proposal, etc.
- Fail. The student is not recommended to continue in the program.

*The First Year Committee or Supervisory Committee may require a student to complete a M.S. degree before proceeding to the Ph.D. program at their discretion.

Petition to Ph.D.

A student who passes at the M.S. level may petition to continue onto the Ph.D. program. To petition a student must:

- Inform the current SEC members, the GPC, and the Chair of the Department of their intention to petition to the Ph.D. program at least 2 weeks prior to taking their M.S. Final Exam. At least 2 members of the SEC must be present for the exam.
- Meet with the GPC and student's research advisor(s) prior to the M.S. Final Exam to discuss research plans and funding.
- At the next faculty meeting the attending members of the SEC and the student's research advisor make independent recommendations as to whether or not the student should proceed into the Ph.D program. The faculty then vote on the petition and the student is informed immediately afterwards of the result.
- If the petition is not approved the student graduates with a terminal M.S. degree. If the student still wishes to pursue a Ph.D. they must reapply as a new student.
- If the petition is approved, the student proceeds with the standard Ph.D. guidelines found below.

After the Prelim Exam

Students who pass at the Master's level may proceed to complete their Master's degree.

Procedures information is online at:

http://www.ess.washington.edu/ess/education/grad/research/ess-GradGuide.html#_M.S._Requirements

The student and advisor will determine the members of the Master's Advisory Committee, and the date of the Master's defense. The student will contact Student Services regarding room reservations and notifications.

Students who are admitted to the Ph.D. program may proceed to complete their doctoral degree.

The next steps include setting up the Doctoral Advisory Committee, the General Exam, setting up the reading committee, the Final Exam or Defense, and completion of the Dissertation.

Procedures information from the Graduation School is online at

http://www.ess.washington.edu/ess/education/grad/research/ess-GradGuide.html#_PHD