

Prospectus Guidelines and Meeting Form

University of California, Davis | Earth and Planetary Science Graduate Program

The purpose of this document is 1) to formalize the goals of the prospectus meeting and guidelines for evaluating student preparation and providing feedback, 2) to clarify the format of the meeting, and 3) to provide advice on how to prepare throughout your first year.

Goals of the Prospectus Meeting

Evaluate the student's progress towards framing a problem and carrying out independent scientific research.

Provide help and constructive feedback to ensure the student makes good progress towards their degree objective.

Before the Prospectus Meeting

1. Familiarize yourself with the section of the EPS Degree Requirements related to preparation of the prospectus document and deadlines for submitting the document to your committee and scheduling the prospectus meeting.
2. In consultation with your major advisor, identify a second faculty member from the department to serve on your prospectus committee. Contact this person to ask if they are available to serve on your prospectus committee. Communicate this information to the graduate program coordinator (GPC). The third member of your committee will be one of the graduate advisor (the GPC will notify you who this person is).
3. Prepare your prospectus and a 0.5 to 1.0 page a self-evaluation. The self-evaluation should discuss your preparation, what you identify as your strengths and weakness with respect to carrying out your proposed project, your future learning objectives, and the steps you are taking to address perceived weaknesses.
4. Complete the MS or PhD Advising form listing courses taken/planned, quarters as TA/GSR/Fellowship.
5. Submit 3 documents to your prospectus committee: the prospectus, the self evaluation and the advising form.
6. Schedule your prospectus meeting. The student is responsible for finding a date/time and reserving a room. Start this planning/scheduling early before schedules fill up.

Format of the Prospectus Meeting

The student and committee members should plan for a 1.5 hour meeting. The student will need to prepare for the prospectus meeting but not necessarily study for it. The committee and the student will discuss the prospectus, but there will be no formal presentation by the student.

The discussions should be guided by the rubric outlined below, and the graduate advisor will make sure that all aspects of the rubric are addressed in the discussion. The discussion will likely include pointed questions aimed fully understanding the project and the student's preparation, but the meeting is not an exam. The student can have power-point slides of the figures presented in the prospectus (or other relevant figures) to aid with the discussions. After the meeting, the student will step outside the room so that the committee members can discuss the progress the student is making with respect to the degree objective and to articulate concrete steps to aid the student's progress in their forthcoming year.

Rubric for Evaluation and Providing Feedback to the Student

- Student demonstrated a good understanding of the research project including the importance and broader implications of the proposed work.
- The student demonstrated a solid grasp on what kind of tasks (e.g., data collection, model or code development, analytical technique development, data analyses) will be required to carry out the proposed research.
- The student has the necessary background and relevant coursework in the area to carry out the proposed tasks:
 - The student is demonstrating some knowledge of the literature.
 - The student is taking the initiative to dig into the literature.
 - The student is demonstrating critical thinking abilities.
 - The student is thinking through what sort of background information would be relevant to the proposed work.
- The self-evaluation of the student's own strengths and weaknesses are broadly in line with the committee's evaluation of the student (i.e., have a discussion if the two are quite different).
- The student has considered the feasibility of executing the proposed work (e.g., number of analyses, access to the field, time and resources needed to run simulations).
- The student demonstrated that they have thought about contingency plans if the proposed research plan does not work out.

Possible Outcomes of the Prospectus Meeting

The prospectus cover page (last page of this document) lists the possible outcomes of the prospectus meeting, and these are also listed in the degree requirements. The graduate advisor committee member is responsible for writing a short summary of the feedback to the student, which needs to be sent to the GPC with the prospectus form.

If there are only minor or no concerns the student will be given written feedback related to the points in the rubric above and encouraged to work towards either finishing their thesis (MS) or preparing the proposal for their qualifying exam (PhD).

If there are major concerns, then the committee will not hesitate to ask for modifications of the prospectus, proposed research (as appropriate), or further demonstration of knowledge by the student if there is any doubt of the success of the student in moving forward on the proposed

project. It is better/more effective to address these concerns from the outset in order to save significant time and energy for all involved. The scope of revisions requested and deadline to submit these changes to the committee should be communicated to the student in writing (e-mail, cc'd to the Graduate Program Chair) and the student should attach a copy to the prospectus meeting cover sheet.

If there is significant concern about the student's ability to carry out independent research at an appropriate level, or the feasibility of the proposed research, the committee needs to discuss and document the reasons for recommended other possible outcomes (change of degree objective, a completely different project that better suits the student's abilities, or disqualification from the program). This recommendation will be forwarded to the graduate chair who will follow-up with the committee and the student before a final decision is made. This decision can be appealed through Graduate Studies.

Some Advice for Preparing the Prospectus

Below is some advice on how to prepare and what to think about as you are learning about your project, reading papers, and preparing your prospectus in the first year.

- Ask other graduate students if they will share a copy of their prospectus with you so you can see what a successful prospectus document looks like.
- Talk to your advisor about how and when they will provide feedback to you on the prospectus documents (e.g, at what point do they want to see a draft, how many rounds of comments/revision are typical, what kinds of feedback should you expect).
- Questions to thinking about:
 - Have you considered pros/cons of the techniques you are proposing to use?
 - Is there a clear testable hypothesis?
 - Does the logic of the proposed plan make sense?
 - Are you developing a back-up plan in case plan A doesn't give expected results (e.g., no zircons in rock for dating)?
- Evaluate your project in terms suitability for the scope of the degree program.
 - Is the question significant?
 - Does the question have appropriate depth?
 - Is the plan do-able in 2 or 5 years?
- Project-related depth: the committee is looking for a 1st year graduate student level of knowledge of the topics related to your project and that related information from undergrad is confidently recalled and explained.
 - More info – At this point, you will not have had time to learn every technique in detail (or some techniques at all). What we are looking for is that you can explain enough to convince us that you know why this is the technique you should be using, and what are the main pros and cons.
 - How to prepare? Dissect your own project – what are you planning on doing? How? What skills/knowledge will you need (not need before the prospectus, but need before you can do the work)? What is the scope of the literature that you will eventually master (i.e., background on this location versus background on

the process being researched)? Which techniques will you be learning? What specific background or skills do you already have that you will be using for your project?

- Project-related breadth: this relates to developing knowledge of topics that are not specifically related to carrying out the project, but are necessary to understand the full context of the question you are asking.
 - Example: A student working on dynamics of subduction will not be doing any actual calculations of melting in the mantle above the slab. However, melting in subduction zones is a fundamental part of this system that could have effects on the dynamics. Therefore, the student would be expected to be familiar with the basics of melting how it relates to processes that are included in their models, although they would not be asked to explain this in detail in a prospectus meeting.
 - How to prepare? Read, listen, and be curious. Don't ignore these related topics when you come across them. At a minimum write them down (keep a list), ask your advisor, other students, or other faculty for an appropriate starting reference or book, or look for a review paper, so you can get up to speed on the big picture quickly.
- General Breadth: even though you have a very specific project that you are working on, it is also important to continue to keep your foundational knowledge fresh, and expand the range of topics that you have introductory knowledge in.
 - Your committee will not be looking for specific evidence of this broader knowledge, but rather that you are engaging in activities that will allow you to build up this knowledge slowly over time. This is an important component of your learning because it prepares you to make unexpected or unplanned connections between your research and other areas, as well as introducing you to techniques or approaches to thinking that might allow you to approach a problem in your subfield in a new and different way.
 - Things you can do to expand general breadth knowledge and keep foundation skills fresh:
 - Participate in reading groups that broaden the topics you are learning
 - Attend seminars in the department that are outside your specific field
 - When reading papers stop to look-up the terms you don't know, equations you only sort of remember, ranges of values that are relevant to your work, etc...
- Other necessary skills:
 - Develop strong writing skills by writing often (everyday!) about your research. As soon as you learn a method, or tool, or analysis, take the time to write it up clearly and professionally... this is good practice, and these become the seeds of your actual thesis.
 - Create an organization framework that helps you to learn effectively and make progress on research
 - Set research and learning goals for yourself throughout each quarter, and revisit these often to figure out what is working and what isn't.

Prospectus Cover Sheet

Earth and Planetary Sciences Graduate Program | University of California, Davis

Student Name: _____ Date Admitted: _____

Degree Program (M.S. or Ph.D.): _____ Expected Grad Date: _____

Dissertation Title: _____

Prospectus Meeting Date: _____

Documents Attached:

_____ Prospectus

_____ Self-Evaluation

_____ MS/PhD Advising Form

_____ Committee Feedback

Prospectus Meeting Outcome

_____ The student is encouraged to proceed with their M.S. research.

_____ The student is encouraged to expand the prospectus into a formal Ph.D. dissertation proposal.

_____ The student must take additional courses. Courses to be completed are noted in the committee report

_____ The student is requested to modify the prospectus or proposed research (circle one). The revised prospectus will be submitted by the student and re-evaluated by the committee by no later than (enter date): _____.

Please attached detailed/specific list of the revisions to be completed. E-mail a copy of this required revisions to the Graduate Program Chair.

_____ The student is required to proceed toward a M.S. degree prior to continuing in the Ph.D. program. Their suitability for the Ph.D. program will be reconsidered upon the successful completion of the M.S. degree.

Please attach a detailed explanation to be submitted to the Graduate Program Chair and a meeting of the student, the student's advisor, and the Graduate Program Chair must be scheduled. A Change of Degree Objective Form must also be filed with Graduate Studies.

_____ The student may be recommended for disqualification from the program.

Please attach a detailed explanation to be submitted to the Graduate Program Chair and a meeting of the student, the student's advisor, and the Graduate Program Chair must be scheduled.

COMMITTEE MEMBERS

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| RESEARCH ADVISER | SIGNATURE | DATE |
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| GRADUATE ADVISER | SIGNATURE | DATE |
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| FIELD EXPERT | SIGNATURE | DATE |
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Submit this form with a copy of your prospectus, self-evaluation, and the written feedback/required revisions from your committee via email to the Graduate Program Coordinator.