

Second Year Proposition Exam Committee Meeting Guidelines

The goal of the 2nd year proposition exam committee meeting is for students to present a cohesive, well-reasoned, and feasible plan for their thesis research and to receive substantive and actionable feedback from committee members on that plan. The committee should be viewed as a resource to help the student develop their thesis research and navigate the path to graduation. In addition, these committee meetings are an important opportunity for the student to seek guidance regarding mentorship concerns with the thesis advisor. The Biological Sciences PhD program expects faculty serving on thesis committees to take this instructional responsibility seriously and to actively participate in thesis committee meetings by providing substantive and thoughtful feedback. These meetings should be 1.5 hours in length to provide time for active discussion and feedback and should take place in-person. The committee chair and evaluation head should budget *at least* 10 minutes of discussion time at the end of the meeting, without the student present, to carefully complete the attached report. The completed form will provide useful written feedback to the student and the PhD program.

Committee Composition:

Three members (four if jointly advised). Refer to the graduate [handbook](#) on committee composition requirements. The chair of the committee is the Thesis Advisor (or co-chairs if jointly advised by two faculty members). Further, the student and advisor should select an Evaluation Head of the committee who will serve as the moderator for the meeting and complete the attached evaluation form. It is the student's responsibility to communicate the choice of Evaluation Head far in advance of the committee meeting.

Goals and student expectations:

The Second Year Proposition Exam will focus on the thesis research project and will include both a written report and an oral presentation.

The goals of the Second Year Proposition Exam are:

- To evaluate the student's knowledge of the field in which the student plans to carry out their research, including familiarity with relevant literature.
- To critically assess the research proposal, including specific aims and an outline of research approaches.
- To assess the student's progress in developing intellectual ownership and autonomy in the research project, and that student and thesis advisor are aligned regarding the scope and the general direction of the planned research.

The Thesis Committee members will assess student's knowledge of their chosen area of thesis research as well as relevant background and general knowledge in the biological sciences. Students are expected to have developed appropriate communication skills to explain their research question(s) clearly and succinctly, in writing and verbally. Students are expected to demonstrate to the committee the ability to:

- Clearly communicate the rationale for the chosen research question(s)
- Define critical gaps in the current knowledge of their chosen research field
- Develop original and creative approaches to their research question
- Think critically about their own data and data in the literature
- Identify strengths and weaknesses in the techniques in their research strategy
- Propose a research plan that is feasible within the timetable of a PhD thesis
- Generate data to support the feasibility of the aims
- Anticipate potential difficulties and propose alternative approaches
- Define successful research outcomes

- Demonstrate a plan to ensure rigor and reproducibility within the research plan

A specific rubric assessing these expectations is found on the evaluation form below.

Written second year thesis proposition guidelines:

The student must submit a written thesis proposal to all committee members (electronically) **one week prior to the committee meeting**. Failure to submit this report by the stated deadline may result in a failure of the exam. The evaluation head should be clearly indicated in the email containing the thesis proposition.

Format: The format of the written portion of the exam will follow that of an NIH NRSA individual pre-doctoral (F31) fellowship proposal. As such, students and advisors can use this as a basis for submitting a proposal to the NIH. The proposal should follow the page limits applicable to an NIH grant proposal and include the following sections:

- Specific Aims (1 page)
- Research Strategy (6 pages, including Figures):
 - Significance
 - Preliminary Studies
 - Approach
 - Potential problems and Alternative Approaches
 - Plans for Ensuring Rigor & Reproducibility
- Timeline for achieving research milestones
- Literature Cited (including titles, all authors; not counted in the page limit)

Oral presentation guidelines:

The student should present the research background, significance, research strategies, and preliminary data using a similar structure as the written report. The student should prepare meeting materials that, when presented uninterrupted, do not exceed 45 minutes in length. Emphasis should be placed on clearly communicating the rationale for the chosen research question and research approaches.

The student will be asked to leave the room prior to the commencement of the oral presentation. During this time, the committee will have a discussion with the Thesis Advisor to evaluate overall student progress, research strengths and weaknesses, and any concerns. The Thesis Advisor will similarly be asked to leave the room to allow time for the student to discuss any issues regarding the Thesis Advisor with committee members either at the beginning or end of the meeting. If the student articulates substantial concerns regarding the Thesis Advisor that cannot be adequately addressed in the context of the committee meeting, the Evaluation Head should contact the Chair or Vice Chair of the Graduate Committee to discuss the issues and establish an action plan.

Following the student's presentation, the student will again be asked to leave the room while the committee discusses the quality of the student's oral and written presentation using the rubric on the attached evaluation form. Once the student rejoins the meeting, the Evaluation Head will summarize the discussion, inform the student if they have passed or not passed the 2nd year thesis proposition exam, and provide feedback to the student based on the attached evaluation form. Other committee members are encouraged to provide feedback as well and the student should be afforded the opportunity to ask any questions regarding committee feedback. One potential outcome may be that the student does not pass the second-year proposition exam. This outcome should not be viewed as detrimental to the student's progress. Everyone (including all committee members) has written proposals that were judged to be inadequate, and which required revision and resubmission. This is a typical process in science and provides

an important educational opportunity. The committee should weigh this decision carefully, but also not shy away from asking the student for a revised proposal.

The evaluation head should budget at least 10 minutes of discussion time at the end of the meeting, after the student has left, to carefully complete the attached report with other members of the committee. The completed form will provide useful written feedback to the student and the PhD program. The PhD program expects faculty who serve on PhD thesis committees to provide substantive and thoughtful feedback as part of their instructional obligations.

Second Year Proposition Exam Evaluation Form:

Student:

Year of student matriculation in doctoral program:

Thesis Advisor:

Evaluation Head:

Other Committee Members:

Date of Committee Meeting:

Evaluation Scale relative to expectations for 2nd year students:

1 - Outstanding: Exceeds expectations with some minor issues or flaws. This should be regarded as not a usual outcome and should be reserved for students judged to be in the top 10% of the indicated category.

2 – Meets expectations: Met expectations with some notable but not concerning issues or flaws. This should be regarded as the expected outcome for most students.

3 - Requires Attention: Did not meet expectations with substantial issues or flaws. This is not an uncommon outcome and should be viewed as an area of growth for student professional development.

4 – Problematic: Major flaws or issues noted. This outcome should be rare and reserved for students with substantial concerns regarding academic progress. Students receiving problematic evaluations should be considered for academic notice.

1) Did the student submit their written thesis proposal to the committee at least one week prior to the committee meeting? Note that failure to submit the written proposal on time counts as a “Requires Attention” evaluation.

Yes No

2) The quality of the written thesis proposal was:

Outstanding (1), Meets expectations (2), Requires Attention (3), Problematic (4)

3) The quality of the oral presentation was:

Outstanding (1), Meets expectations (2), Requires Attention (3), Problematic (4)

4) The student’s knowledge of the scientific literature relevant to the research project is:

Outstanding (1), Meets expectations (2), Requires Attention (3), Problematic (4)

5) The student’s ability to critically evaluate and interpret both their own and previously published results is:

Outstanding (1), Meets expectations (2), Requires Attention (3), Problematic (4)

6) The student’s initiative and independence toward study design and project directions is:

Outstanding (1), Satisfactory (2), Requires Attention (3), Problematic (4).

7) Progress toward generating data supporting premise of hypothesis and feasibility of aims is:

Outstanding (1), Meets expectations (2), Requires Attention (3), Problematic (4)

8) Is the Committee in agreement with the student's research priorities and research timelines for the next 12 months as stated in the student's written report and oral presentation?

Yes No

If not, please explain briefly below:

9) Provide a summary on the committee's overall evaluation of student academic progress. What are the major research goals for the next year?

10) Please provide an action plan to address specific areas of training that can be improved. This section should be completed for all students, even those that exceed expectations. If the committee feels that certain minimal goals must be achieved in order for the student to remain in good standing in the graduate program, please specify these here. The committee should revisit this action plan the following year to see if progress has been made.

11) Has the student passed the thesis proposition exam?

Yes No

If one or more answers to questions 2-7 are Problematic, the student will not pass. If two or more answers to questions 1-7 are Requires Attention, the student will not pass. Not passing the second year proposition exam will result in placing the student on academic notice.

Students that do not pass the second year proposition exam will be afforded two options. One will be to seek a lab transition and identify a new thesis advisor. As with all lab transitions, this will place the student on academic notice and be subject to policies regrading lab transitions. Once the student identifies a new thesis advisor, they will be required to pass the second year proposition exam after no more than six months after transitioning to a new thesis advisor.

The second option will be to attempt to pass the second year proposition exam with the current thesis advisor in no more than six months from the initial committee meeting. The committee will provide a detailed plan of action and milestones for the student to accomplish. This plan can and should include a mechanism to incorporate constructive feedback from the committee into a revised written thesis proposal. Successful evaluation of the revised proposal may be sufficient for the student to subsequently pass the second-year proposition exam. The plan may also include scheduling a future committee meeting for the student to prepare and deliver another oral presentation to successfully pass the exam.

Failure to pass the second year proposition exam on the second attempt will result in program dismissal.

Signed by Evaluation Head
Signed by Thesis Advisor
Signed by Student