

Oral Biology PhD Program

Preliminary Examination Guidelines

Purpose and Overview

The purpose of the preliminary examination is to evaluate a student's understanding of the discipline, their ability to address unfamiliar problems, and ultimately, their potential for eventually conducting independent research in the discipline.

Trainees seeking PhD candidacy in Oral Biology must pass a written and oral preliminary examination in which they demonstrate their ability to formulate and test one hypothesis-driven research proposal in the field of oral biology. The written preliminary examination, which takes the form of a fellowship proposal, must be satisfactorily completed before the oral preliminary examination is scheduled.

Written Preliminary Exam and Prelim Advisor/Committee

Students will work with their Research Mentor to identify a proposed research topic for the Preliminary Exam. Research topics may be related to – *but not identical to* – the Research Mentor's work. Included in the research topic proposal should be a title, introduction, goal(s), hypothesis, significance, and references.

The PhD Program Co-Directors will identify a Prelim Advisor with sufficient expertise in the field to guide the student during the writing of a full-length National Institutes of Health (NIH) F31 Individual Fellowship-style proposal (“Ruth L. Kirschstein Predoctoral Individual National Research Service Award”). The Co-Directors will also choose the members of the student’s Preliminary Exam Committee, of which the Prelim Advisor is also a member. The Research Mentor will not serve as the Prelim Advisor or as a member of the committee. However, students and their Research Mentors are encouraged to nominate candidates for the committee. Once formed, the Prelim Committee will meet to review and approve/disapprove the proposed research topic.

After the student completes a full-length abstract and the Prelim Committee approves it, the student will deliver a short presentation (approximately 15 minutes) describing the research plan to the Prelim Committee. The student will then prepare a full-length proposal following current NIH F31 fellowship proposal guidelines. Once complete, the proposal is submitted to the Prelim Committee for their evaluation. The committee may request resubmission of the written proposal if it finds major deficiencies. Once the written preliminary exam (fellowship proposal) is approved by the committee, the oral preliminary exam can be scheduled.

Oral Preliminary Exam

The oral examination provides the student with the opportunity to present and discuss the research outlined in their written preliminary exam, in addition to demonstrating their professional knowledge and problem-solving abilities. While the exact nature of the exam will differ depending on the desires of the Prelim Committee, the exam will normally include questions intended to explore the student's professional knowledge, their understanding of the background and significance of their research topic, and their ability to interpret observations and solve problems by synthesizing information from several sources.

The success or failure of a student in the oral examination will not normally hinge on their ability to answer every question or group of questions. However, failure may occur if the student's response(s) demonstrate either an inability to synthesize and solve a scientific problem, or a significant gap in the student's basic knowledge of the field.

The student's Research Mentor should attend the oral preliminary exam to observe, but should not participate. Upon completion of the exam, the Prelim Committee will discuss the student's performance and agree to one of the following grades:

- A grade of **PASS** is assigned when the committee feels that the student has demonstrated: 1) a clear understanding of the research problem; 2) an awareness of pertinent background literature and current efforts in the research area of interest; 3) an understanding of sound approaches towards solving the research problem; and 4) an understanding of alternatives to execute the research plan.
- A grade of **FAIL** is assigned when the committee feels the student has significant deficiencies in any of the 4 areas listed above. Depending on the situation, a student failing the qualifying exam may either be dismissed from the Oral Biology PhD program, or allowed to schedule a second oral exam within 6 months.

Preliminary Exam Timeline

- No later than 20 January:
 - Student submits proposed research topic to the PhD Program Co-Directors.
 - Co-Directors select Prelim Advisor and Prelim Committee members.
- 31 January: Prelim Committee informs the student of whether or not the topic is approved.
- 28 February: Full-length abstract is complete, and the student presents research plan to Prelim Committee.
- 1 April: Full-length written proposal complete.
- 15 April: Committee evaluation of written proposal complete.
- No later than 15 May: Oral Preliminary Exam.