

Guidelines for the preliminary examination in Pharmacology and Molecular Cancer Biology

Goal of preliminary examination

The goal of the preliminary exam is to demonstrate proficiency in the student's field of study with respect to understanding pertinent literature, applying appropriate techniques, posing incisive questions and hypotheses to address them, and designing and interpreting experiments. The successful completion of a preliminary (prelim) exam, which requires the preparation of a written component and a ~two-hour oral exam, is required to enter PhD candidacy. The preliminary exam proposal should identify a gap of knowledge in the field of study based on what is currently reported in the literature, which will inform a focused hypothesis, and 2 to 3 specific aims to test the hypothesis as detailed below. It is recommended that students take advantage of both the pre-prelim exam (see below) and the grant writing course prior to the preparation of the prelim proposal.

Timing of preliminary examination

The preliminary exam must be successfully completed by the end of the third year. Students typically take the exam in the spring or summer of their second year or the fall of their third year. Successful completion of the exam is required to formally accept a student as a candidate for a Ph.D. degree. The prelim exam committee may be the same as the student's thesis committee, with the exception that the advisor does not participate in the examination. Students should select their thesis committee by the end of their second year and submit the names to the program administrator for approval by the DGS and the Graduate School.

Pre-prelim (optional)

Students are encouraged to schedule a pre-preliminary examination with their thesis committee 1-2 months prior to their intended examination date. This is not an 'exam' *per se*, but rather an opportunity to discuss the proposed aims and help focus the proposal. The committee will also make suggestions for improvement in specific areas of knowledge. A week prior to the pre-prelim examination the student should provide the committee with their one page of specific aims. The student will also prepare a short presentation ~15 minutes to describe the premise and the rationale (e.g. preliminary data -- if available) for the proposal. The advisor is allowed to participate in the pre-prelim to potentially clear up any potential points of confusion.

Format of the preliminary examination

Students will write a proposal that would be suitable for submission to a granting agency (such as NIH, NSF, DOD, etc.). The NIH predoctoral fellowship format, page guidelines, etc. apply for this examination (<https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/format-attachments.htm>). The student can write on his/her own research topic (or at least on the topic they think they will be following for their thesis research). Alternatively, students may choose to write a proposal on a subject unrelated to their research but in their chosen field of study. No preliminary data are required for the proposal and the students will not be evaluated on the quality of their preliminary data. Rather, it will be perfectly acceptable to submit an IDEA-type of grant (i.e., similar to the DOD Idea Awards) in which hypothesis-driven research based on information to be found in the literature is acceptable.

Proposals must be written in an 11 point (or larger) font using an NIH recommended typeface (e.g. arial, georgia, helvetica, palatino linotype). Figure legends can be written in 10 point Arial font. All borders must be a minimum of 0.5 inch. The proposal should include a face page denoting the student's name, thesis mentor, graduate program, title of project, date of and room (or Zoom link) of the preliminary exam. This should be followed by one page describing the specific aims, 6 pages for research strategy divided into significance, innovation and approach sections. Figures must be included in the 6- page limit. Only the citations are allowed to exceed the 6-page limit.

The written proposal constitutes a significant portion of the preliminary exam outcome, but the bulk of the preliminary examination will be derived from the student's ability to answer questions and defend their ideas at the exam itself. To pass the exam, each committee member will consider the proposal and the oral defense of the proposal to evaluate the student's overall performance. Committee members then vote to determine if the result is pass or fail. More than one vote to fail results in failure of the exam. By putting the largest emphasis on the student's ability to both defend the proposal and demonstrate in-depth knowledge of areas broadly related to the proposal, we feel that this process will provide an objective evaluation of the students' progress. Students should be aware that we plan to assess their general knowledge in the area of their proposal and they should be able to discuss material covered in the required courses of their field of study. The advisor will not be in attendance at the examination.

If the student does not pass the exam, they will have one chance to retake it within the time frame indicated by the committee (3-6 months).

The student's advisor should be available prior to the closed session of the examination to introduce the student, and after the exam has been completed to learn of the decisions and recommendations of the committee members.

Contribution of the advisor and student to the thesis proposal document

The thesis proposal document is to be written by the student, with the guidance of the advisor. The advisor is encouraged to contribute to the content of the document to the extent that he/she feels is appropriate.

Examination committee

The committee for the preliminary examination may consist of members of the student's thesis committee (with the exception of their advisor). The prelim examination must be conducted by at least 4 committee members. The chair of the thesis and prelim committee must be a primary faculty member in Pharmacology and Cancer Biology (PCB) and may not be the student's thesis advisor. At least two members of the committee, including the chair, must have a primary or secondary faculty appointment in the department or be a member of the graduate program from which the degree is sought. Once you have confirmed your prelim committee members, complete the committee approval form ([committee approval form](#)) and email the PDF to (claudia.ruga@duke.edu). The form will be submitted to the Graduate School for approval form with the Graduate School. Please remember to include 1-2 sentences on why you selected your minor area representative committee member.

Pre-Prelim Committee	Prelim Committee	Thesis Committee
Chair (primary in PCB)	Chair (primary in PCB)	Chair (primary in PCB)
Advisor		Advisor
Member (area expertise; primary or secondary in PCB)	Member (area expertise; primary or secondary in PCB)	Member (area expertise; primary or secondary in PCB)
Member (area expertise)	Member (area expertise)	Member (area expertise)
Member (minor area representative)	Member (minor area representative)	Member (minor area representative)

Timeline for Prelim Exams

In the spring semester of their second year, students should select their prelim committee. The committee must be approved by the Graduate School at least 30 days prior to the preliminary examination.

The preliminary examination must be conducted by the end of the third year; although we strongly recommend completing the exam no later than the fall semester of the third year (many students will take their prelim exam in the spring or summer of their second year). See specific timelines below.

If a student elects to be examined on an alternative topic other than their thesis research, they must submit two different projects with their corresponding aims pages for approval 7 weeks prior to the exam.

Timeline for PRE- Prelim Exam

- Student proposes 4 prelim members – At least 60 days prior to exam
- Committee Approval by Dean of Graduate School – At least 30 days prior to exam
- Specific aims page due to committee – 1 week prior to the exam
- PRE prelim exam scheduled – 1-2 months prior to Prelim exam

Timeline for Prelim Exam (if you DO NOT have a PRE-Prelim Exam)

- Student proposes 4 prelim members – At least 90 days prior to exam
- Committee Approval by Dean of Graduate School – At least 30 days prior to exam
- Specific aims page due to committee – 7 weeks prior to the exam (not needed if specific aims were approved in the pre-prelim meeting)
- Proposals due to committee – 2 weeks prior to the exam (and absolutely no later than 1 week).
- Prelim Exam must be successfully completed before the end of your third year.