

Qualifying Exam Policy

(see the GSBS student handbook for more details)

Purpose: The goals of the qualifying exam (QE) are to: 1) Assess the student's knowledge of both basic science as well as background related to their proposed thesis research; 2) Evaluate the student's ability to formulate a specific hypothesis; and 3) Evaluate the student's ability to develop a research plan to test this hypothesis in a grant proposal format.

Timeline: All students are expected to complete the qualifying exam before the end of the 2nd semester of their 2nd year (e.g., the end of May).

Proposal Topic: The topic of the QE proposal should be related to the student's thesis research project. The student will generate a hypothesis based solely upon current findings in the thesis research lab and in the literature. Additional preliminary data to support the hypothesis are not required, but can be included in the proposal.

Qualifying Exam Committee: The QE committee will consist of a minimum of 4 faculty members, including the chair. Only the chair of the QE committee must be a member of the IGP. The thesis advisor cannot be a member of the QE committee and does not attend the exam. The student should consult with their thesis advisor and the IGP program director to select the members of their committee. The names of the committee members should then be submitted to the GSBS office. The form can be found on the GSBS website.

Qualifying Exam:

Phase One: Abstract

The student will prepare a 1-2 page, single-spaced outline of their proposal that includes the hypothesis to be tested, a brief background of the topic area that emphasizes the significance and novelty of the research, and the Specific Aims of the proposal. Included in the Aims should be a brief description of the overall approaches and methodologies to be used. The abstract should take the form of a "Specific Aims" page of a grant proposal.

The student is encouraged to consult with their thesis advisor regarding the scope and organization of the abstract. It is expected that the thesis advisor will play an active role in mentoring the student during the preparation of the abstract.

The student will submit the completed abstract to the Qualifying Exam Committee and schedule an abstract meeting. Once the abstract is approved at the meeting, the student may schedule the qualifying exam. The exam should be scheduled within 5-7 weeks of the abstract approval. Once the abstract has been approved, the student can no longer discuss their proposal with their thesis advisor. The thesis advisor will not participate in mentoring the student during this phase of the preparation of the proposal and they will not be present during the exam. However, the student is free to discuss their proposal with all other faculty members, as well as students or postdocs.

Phase Two: Proposal

The student shall prepare a written proposal that is a minimum of 10 and maximum of 20 double-spaced pages, inclusive of figures but non-inclusive of references. The font should be no smaller than 12 point and the margins should be 1 inch on all sides. The overall format should mimic an NIH grant application and consist of the following sections: 1) Specific Aims (~1 page); 2) Background and Significance (~2-4 pages); 3) Research Design and Methods (~6-15 pages). Included in the Research Design section should be a brief discussion of expected results, anticipated problems and alternative approaches for each Aim. Alternatively, the student can use the NIH F31 format (NRSA pre-doctoral fellowship; see www.NIH.gov for the forms) to prepare their proposal. The student shall submit the written proposal to the full qualifying exam committee within 5 weeks after approval of the Abstract, and the defense should be scheduled within 2 weeks after this submission.

Committee members should alert the chair before the exam if they have major concerns regarding the written proposal. If concern is raised that the proposal is poorly written, the exam may be postponed to allow the student time to address this issue. This should only happen if there are significant problems, and not for minor corrections or modifications. Scientific concerns should be discussed during the exam.

Phase Three: Exam

The student shall prepare a short presentation for the committee members. In this presentation the student should provide a brief overview and background of the topic to be investigated and state the overall hypothesis to be tested. The majority of the presentation should focus on the Aims and the experimental approaches that have been proposed to test the hypothesis. Expected results should be discussed. This presentation should not exceed 20-25 slides and if given without interruption, should not be longer than 30 minutes.

The student should be prepared to defend their hypothesis and experimental approaches and to discuss their proposal within the broader context of the research area.

Results

1. Pass -The student has written a logical and coherent proposal and has defended it well. They are able to answer questions on their specific research topic. They have also demonstrated a general knowledge of basic cell and molecular biology, and they are able to discuss the background literature relevant to their proposal. The student may begin their thesis research.
2. Retake - The student showed some weaknesses with either the written proposal, the defense of their proposal, or in answering general questions. If a specific flaw in the proposal is identified that can be addressed without requiring the student to undertake additional coursework, the student will rewrite the proposal to address the specific shortcomings and present and/or defend their modified proposal before the QEC. The outcome of the re-test will be pass or fail. The student may also be asked to take additional courses to supplement their knowledge.
3. Fail - The student's written proposal is weak and they were not able to defend their hypothesis or to answer questions related to the topic of their research proposal. The student will be asked to withdraw academically from GSBS.

Qualifying Exam Deadlines

Students are expected to complete their Qualifying Exam before the end of their 2nd year Spring Semester. Any exceptions require justification by the student and thesis advisor. They should discuss the circumstances with the IGP Director. Approval will be made by the IGP Director in consultation with the Dean of the Graduate School.