

GUIDELINES FOR THE PRELIMINARY EXAMINATIONS

For Ph.D. Students in the

MOLECULAR, CELLULAR AND SYSTEMIC PHYSIOLOGY GRADUATE PROGRAM

General Information

Preliminary examinations for doctoral students consist of written exams, a research proposal, and an oral defense of the research proposal. The preliminary exams should be initiated after completion of the second year of study, and in most cases the written exams are scheduled for early August. The student must pass the written exams first, followed by writing and defending the research proposal.

Written Examination

The student's Advisory Committee, which consists of at least five graduate faculty members (including one from outside the department), will prepare the written examinations. The written examinations should test the student's knowledge, analytical skills, and synthesis through a combination of question types, including: essay, interpretation of research data, and designing experiments. The emphasis of the exams should be on topics related to the student's research area, but may also include topics covered in the student's course work in molecular, cellular and systemic physiology. The Advisory Committee should meet and discuss topic areas for examination and types of questions. Each member should write and submit one or two questions to the Graduate Program Committee (GPC). The GPC will review the questions for consistency and uniformity across exams given from year to year and will assemble the exam. The GPC will be responsible for scheduling and proctoring of the exam.

The written exams will be given over two-three days and the student will be given two hours to answer each question. The student will be required to answer one question from each member of the committee, and may be given a choice between two questions. Each member of the Advisory Committee will grade the student's answer to their question and send the results to the GPC. The criterion for a "pass" will be at 80% in terms of completeness and accuracy. The GPC will meet and determine if the combined scores are at 80% or above and passing. The student will be notified of their "pass/fail" status within 10 days of taking the written exams. In the event that they do not pass, the student may request one re-examination only. If the student obtains an overall pass, but one or more individual exam scores are below 70%, the GPC in consultation with the Advisory Committee may require the student to retake the individual exams. Failure to pass the written exams on the second attempt will result in consideration for dismissal by the GPC.

Research Proposal

After passing the written exams the student will be asked to prepare a research proposal. The proposal will be based on the student's own research and may constitute a first draft of the student's dissertation project. Some of the proposed experiments may be similar to experiments proposed by the research advisor in grants, but they must be written in the student's own words. The majority of the proposal should represent the student's independent ideas and approaches and these may or may not be carried out in the final dissertation project. The proposal should be

written with minimal help of the advisor, but this does not exclude discussions with the advisor or other faculty on proposal content or experimentation.

The research proposal must include the following sections:

Abstract (about 300 words)

Specific Aims (testing a hypothesis - 1 page limit)

Background and Significance (6 page limit)

Preliminary Studies (no page limit)

Research Design and Methods (including rationale, detailed materials and methods, expectations, & limitations - no page limit)

References (no page limit)

The proposal should not exceed 20 pages of single-spaced type (font size 11 or 12), excluding the abstract and references. Detailed guidelines and a sample of a research proposal are available from the GPC.

The student will be allowed one month to complete the proposal, after which time it should be submitted to the Advisory Committee for comments and feedback. The Advisory Committee will be given one week to read the proposal and decide if the proposal is acceptable. In some situations, a longer period may be necessary if one or more members of the committee are traveling or otherwise unavailable. If the research proposal is not acceptable, the committee may give the student up to two additional weeks to correct deficiencies. After the proposal or revised proposal is found acceptable, the student will be responsible for scheduling a time within two weeks for the oral defense of the research proposal. A notice of the date and location of oral defense should be sent to the GPC and the Department of Physiology faculty. A final copy of the research proposal with the signed cover sheet should be submitted to the GPC for filing.

Oral Defense

The student will begin with a 20-25 minute presentation covering the background, preliminary studies, and specific aims of the proposal, followed by questions from the Advisory Committee. The questions will focus on the proposal ascertaining the student's knowledge of the research area, understanding of methodologies and experimental design, ability to defend their ideas and to process information added during questioning, etc. Deficiencies noted on the written exams may also be reassessed during the oral exam. Faculty in the Department of Physiology may attend the oral exam and ask questions they deem appropriate. The oral defense is expected to last about 2 hours, but is likely to extend beyond that and should be scheduled for a 3-hour session.

Immediately after the oral defense is over, the Advisory Committee will meet in private to decide on whether the student has passed the preliminary examinations. Forms evaluating the preliminary exams (written exams, research proposal, and oral defense) should be filled out at this time. The Advisory Committee will notify the student of the results immediately following their decision. In the event the student does not pass the oral defense, he/she may request another examination, which must be given within 30 days. Failure to pass on the second attempt will constitute failure of the entire preliminary examination and the matter will be referred to the GPC for a dismissal hearing.

Approved by GPC, 12/5/05, Reviewed and Approved by GPC 6/25/10

CANDIDACY AND DISSERTATION

To qualify for doctoral candidacy: a student must 1) complete 24 semester hours of coursework in the Ph.D. program for residency, 2) complete the tool requirement, 3) pass the written exams, 4) write a research proposal and 5) orally defend the research proposal. Qualified students are recommended to the Graduate Dean for admission to candidacy.

After admission to candidacy, a student must take 24 hours of PHSL 600 (dissertation). If the student has done this and the dissertation is not completed, he/she must register for PHSL 601 (Continuing Enrollment).

The topic and the substance of the student's dissertation must be approved by the student's Mentor and Advisory Committee. The dissertation is expected to be a competent piece of original research that adds to the body of scientific knowledge. This research should be of sufficient quality to merit presentation at scientific meetings and for publication in a peer-reviewed journal.