



The Graduate Program in Neurobiology & Behavior Supervisory Committee & General Examination Process

Supervisory Committee

Students must establish a Supervisory Committee by Winter Quarter of the second year in the Program. This Committee serves several important functions, including evaluating the student's progress, advising the student on their research, and conducting the student's General Exam. Students can meet with their Supervisory Committees as often as necessary, but a minimum of one meeting per year is required to ensure adequate and timely progress toward the PhD degree. It is expected that the first meeting will take place soon after the committee has been formed, well before the General Exam is scheduled. These meetings are not examinations. They consist of a presentation on progress and future plans and extensive discussion. The Committee should approve the student's progress before the General Exam is scheduled.

The Committee is made up of Faculty that the student selects, in consultation with the Supervisor, and with approval of the Program Directors. The Supervisory Committee must contain at least three individuals who are members of the Program training faculty. At least one member of the Committee should represent an area of neuroscience outside the student's immediate area of research. A criterion for "outside" status is membership in a focus group outside the field of the dissertation advisor. In addition, the student will select a Graduate School Representative (GSR) to the Supervisory Committee. The GSR represents the interests of the student and should not have a primary appointment in the Supervisor's home department, nor be part of the N&B list in Graduate Faculty Locator. It is suggested that the Committee contain at least four members (in addition to the GSR) to avoid having to cancel the General Exam if a committee member cannot attend or is on sabbatical or family leave. While it is not always possible to have all of the Supervisory Committee members attend each meeting, it is a requirement of the Graduate School that your advisor(s) and the GSR attend your General Exam. **NOTE: The Supervisory Committee must be appointed at least one (1) month before the warrant (request to schedule the exam) is submitted to the Dean of the Graduate School. Contact the N&B Program Office to request your Committee for Director and Graduate School approval.**

General Examination

Students are encouraged to take the general exam by the end of summer quarter of their second year, and *must* take it by the end of the Fall Quarter of their third year. If the student's advisor (or other critical committee member) plans to be on sabbatical or family leave during the autumn quarter of the student's third year, then the student is expected to take the exam *before* the advisor (or other committee member) goes on leave. The General Exam consists of two written components and two oral sections. The written parts consist of a brief research proposal and answers to questions on prepared topics. The oral sections consist of a 20 minute presentation on the thesis proposal and questioning about topics related to the area of the dissertation and general knowledge. Details on the format of the General Exam are provided below.

Prior to the Examination, the student should designate a member of the Committee to serve as the General Examination Administrator, who will be responsible for administering the General Examination.

Note: In order to schedule your General Exam, you will need to submit a warrant request on-line to the Graduate School. You can submit a warrant request on-line at MyGradProgram (<http://www.grad.washington.edu/stsv/mygrad/student.htm>).

Warrant requests must be submitted on-line to the Graduate School and approved by the N&B Program at least 3 weeks before the General Exam.

General Examination Procedures

A. Guiding principles

While the General Examination is a requirement of the Graduate School for the advancement of the student to candidacy towards the Ph.D., it also serves several important purposes in the training of students in the Graduate Program in Neurobiology and Behavior. The format of the General Exam has been designed to achieve the following goals:

1. Emphasize that the student formulates a novel scientific question and devises a method to answer it.
2. Ensure timely progress of the student through the program and toward the PhD.
3. Ensure the rigor of the exam, especially in areas of general knowledge.
4. Provide a method to ensure consistency of the examination for students

By the end of winter quarter of Year 2, the student is required to establish a thesis committee. One member is identified as outside the student's immediate field. A criterion for "outside" status is membership in a focus group outside the field of the dissertation advisor. The general examination must be completed by the end of Fall Quarter of Year 3.

The student is required to meet with committee members (not the GSR) either individually or in a pre-exam meeting before the examination to identify one or two topics of general knowledge for each member in which to prepare. This meeting should occur at least two (2) months prior to the General Exam. These areas are selected by the committee member in an area of his or her expertise but tailored to the student's area of interest. Although the thesis committee members will ultimately serve to advise the student on progress toward the dissertation, their role before the general examination is to identify areas of neuroscience in which depth and breadth of knowledge are likely to be helpful to the student's training in neurobiology and behavior. The committee member and the student should clarify the scope, but there is much latitude here. For example, the area may be broadly defined (e.g., development, the olfactory system, ion channels, learning and memory, etc.) or more focused (apoptosis, tyrosine kinase signaling, voltage gating, signal to noise determinants in retina, role of superior colliculus in gaze control, etc.). **Together, the student and the committee member should develop a reading list based on standard texts, review papers and primary scientific literature.** The committee member should keep in mind that the student will be preparing in several areas, depending on the number of committee members and the number of topics they require.

To schedule the general exam, the student's advisor and the committee as a whole must be satisfied that the student is making progress in the laboratory. A student who has not demonstrated dedication and some degree of acumen in areas relevant to conducting the thesis research will not be eligible to take the general exam. (Because this situation is considered to be not making satisfactory progress towards the Ph.D., it is expected that this will be a rare occurrence.) When scheduling the general exam, the student should identify a member of the Supervisory Committee who will serve as Administrator for the examination. The student selects the Administrator with concurrence of the thesis advisor. The thesis advisor and the GSR are not eligible to serve as the Administrator. The student, thesis advisor and Examination Administrator should notify the N&B office of this arrangement by email. The role of the Examination Administrator will be spelled out below.

B.1. Format of the written exam. There are two parts: (1) a brief thesis proposal with emphasis on background and rationale; (2) answers to three "knowledge" questions, which are submitted by the committee.

(1) Thesis proposal. The document should develop the background and rationale for the proposed dissertation research, and it should outline an experimental plan to address one fundamental question. While the proposal will usually relate to the student's intended dissertation research, it could be on a different topic should the student and the committee decide that this would be appropriate. The document should be **no more than five pages single spaced, plus bibliography**. It should (i) emphasize published studies pertinent to the proposed research area, (ii) develop the rationale for the proposed study, emphasizing gaps in current knowledge in the proposed research area, (iii) advance one or two hypotheses, and (iv) describe an experimental strategy to test the hypothesis. Preliminary data should not be included. Detailed methodology and a formal list of specific aims can be deferred until the first thesis committee meeting after the general examination has been passed. **The proposal is due two (2) weeks before the exam.** For purposes of the general examination, the student will be

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evaluated on scholarship, clarity and content of the proposal, logical development of a scientific hypothesis, and overall merit of the strategy. A more complete research plan is expected at the first thesis committee meeting after the general exam has been passed, which is to be held by the end of Spring Quarter in the 3rd year. The format of this subsequent meeting is flexible (i.e., up to the committee). It is not part of the General Exam.

(2) Questions on general knowledge. Two weeks prior to the examination date, the Examination Administrator will obtain a written question from each member of the committee. The questions can be essay, problem format, or analysis. The answers should require no more than two (2) pages per examining committee member. The Administrator will select and forward to the student questions from three committee members. The dissertation advisor is not expected to submit questions, but he or she may do so at the discretion of the Examination Administrator. The GSR may also submit questions at the choice of the Examination Administrator. The student has one (1) week to complete all answers. The answers to all questions shall be provided to all committee members one (1) week before the oral examination. A PDF attachment to an email is the preferred format.

B.2. Format of the oral exam. The examination begins with a **20 minute** “chalk-talk” about the proposed research. The focus is on the rationale for the project and the proposed experimental strategy; background information should be presented only when directly relevant. Though preliminary data are not required for the oral exam, data slides may be presented as supporting material. Following the “chalk-talk”, the committee will examine the student on themes related to the proposal, principles of experimental design, and any other areas that are seen as pertinent to the goal of developing a rigorous scientific inquiry in the student’s proposed dissertation area. This part of the exam is expected to last approximately one hour. The second part of the exam will focus on general knowledge. The topics are expected to include the areas previously identified by committee members with the student. **Questions on general knowledge covered in the 1st year course curriculum are also to be part of the process.** Students should ensure that they have assimilated and consolidated the information presented in the first year coursework to be adequately prepared for this part of the exam. The Administrator of the General Examination will control the conduct of the oral exam. As described above, this is a committee member chosen in advance by the student and dissertation advisor who is not the GSR or the student’s advisor. While the dissertation advisor may correct a misstatement or misinformation offered by the student, the advisor should not participate in general discussions and questions during the exam.

B.3 Consequences of failing the General Examination A student whose performance on the General Examination is considered to be not satisfactory **may** be allowed to have a first reexamination if the Supervisory Committee considers this to be appropriate. A student who does not pass the General Examination on the second attempt may be allowed a **third and final** attempt to pass the exam, but only with the approval of the Program Directors. There must be exceptional circumstances that are clearly defined by the Supervisory Committee in a letter to the Directors that explains why a 3rd attempt is justified.

B.4. Dissertation proposal meeting. After passing the General Exam, the candidate must remain in good academic standing by meeting the program requirements and by making progress on the dissertation. The program requires that the student assemble a meeting of the thesis committee once per year. The GSR is not required to attend, but he or she should be invited. The first post-exam meeting should occur no later than the end of Spring Quarter of the 3rd year. Prior to this meeting the student should modify the original thesis proposal from the general exam in three ways: (1) incorporate any comments and suggestions from the general exam; (2) add a complete set of specific aims; and (3) provide a general description of experimental design and methods, which should be limited to two pages. The student can include some preliminary data as available. **The revised proposal should be no more than 10 single spaced pages.** It should be distributed to the Supervisory Committee at least one (1) week prior to the meeting. The goal of this meeting is for the committee members to provide the student with constructive suggestions for the student’s dissertation research, and the meeting will **not** be held in an exam format.