

Advancement to Candidacy

Upon completing the required coursework, the student is eligible to take the Qualifying Examination, which is also called the Area Paper (see detailed description below). The student will apply to take the examination by submitting for approval by the Executive Committee, a document indicating that the student has successfully completed the course requirements and also that lists the members of the examining committee and tentative title for the Area Paper (obtain the appropriate form from the Website). Upon approval, the student will arrange meetings with committee members to discuss the proposed outline for the Area Paper.

The student will be advised immediately following the Qualifying Examination as to the outcome, of which three are possible: Pass, Conditional Pass or Fail. After passing the examination (or upon satisfying the remaining conditions for passing) the student's record over the first two years will be evaluated by the Executive Committee in order to determine if the student may advance to candidacy. This evaluation will consider performance in coursework and in the laboratory, as well as the recommendations of the Examining Committee and any endorsements from the student's mentor. **A passing performance in the Qualifying Examination is necessary, but not sufficient for advancement; satisfactory performance in all areas is required for advancement to candidacy.**

Qualifying Examination (Area Paper)

The means to evaluate the academic capabilities of the student are provided by the Qualifying Exam. At the end of the second year of graduate work and no later than the Thanksgiving holiday of the third year, the students are expected to complete the requirements for advancement to candidacy. In particular, the core course work must be completed, a major area paper must be written and the Qualifying Exam must be taken. The purpose of the Qualifying Exam is to evaluate the student on intellectual capabilities that are not revealed by formal course work and success in laboratory research. In essence, the exam and its antecedents (the written work described below) are to examine the student's ability to synthesize information from original sources, identify the critical questions/problem areas, criticize existing work in a creative fashion, and propose experiments that would resolve the remaining issues.

Students are expected to organize a faculty advisory committee during the spring and summer semester of the second year. This committee is to include a member of the **Executive Committee** or designee and **three other members of the Neuroscience Graduate Program** (no more than two of which may be from the same department). This rule is intended to ensure

breadth in the Committee. The Primary Mentor may attend the Qualifying Exam as a “**silent member**”, participating only when called upon by the other members. The responsibility of this advisory committee is to: (1) Ensure that the student is making satisfactory academic progress in the program and has completed or is in the process of completing all course requirements, (2) Determine an appropriate written instrument (see below) for the advancement to candidacy, and (3) Meet periodically (approximately every other month) with the student during the completion of the written work to evaluate progress, and re-direct the student if problems are encountered. After the completion of the written work, the candidate defends the work to the committee. The combination of the completed core course work, **laboratory research**, Major Area Paper and the oral defense are the requirements for the advancement to candidacy.

The **written portion** of the Qualifying Exam can take one of two forms. The student may write a Major Area Paper, which is a scholarly review of a well-defined field of research. The paper should identify the research themes and the goals, evaluate the state of knowledge of the field, and identify areas where further work is needed. A particularly important aspect is the critical but creative evaluation of the literature. This paper takes the form of a major review article. The second route toward advancement to candidacy is through the writing of a Research Proposal. The research proposal is in the format of an NIH or NSF grant application, except that an extensive "background" section should substitute for any sections which normally enumerate the previous work of the applicant or preliminary experiments by the applicant related to the grant. This proposal differs from the dissertation proposal in that it should focus on a critical evaluation of existing literature and the logic of experimental design rather than on practical considerations. Students defend the proposal on the basis of the appropriateness of the experiments proposed, the logical cohesiveness of the proposal, and the critical and creative synthesis of the field of knowledge that led to the specific experiments.

The **oral defense** is meant to evaluate the student's ability to utilize all facets of their previous training during interchanges similar to those encountered at scientific forums. They should be able to verbally present material in a manner that is understandable and succinct. They should be able to defend their ideas in a professional manner, and should be able to accept and react positively to criticism. The students should, at this point, behave as an emerging professional scientist capable of expressing and exchanging ideas with colleagues. They also should be capable by this stage of evaluating evidence, and distinguishing between data and interpretation.