

Neuroscience Qualifying Exams

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Neuroscience students will take the qualifying exam in two parts: The outside proposal and the thesis proposal. The schedule for writing and defending the qualifying exams is described below.

The general purposes of this sequence of proposals and examinations are (1) to test whether a student has sufficient knowledge of neuroscience in at least two unrelated areas of the field to identify an important problem and to plan an original experimental approach for its solution and (2) to provide experience in writing and defending orally mock grant proposals.

The student's Ph.D. thesis mentor shall not be a member of the committees examining the student on either of these proposals.

I. Out-of-Area Qualifying Exam

The general purpose of the preliminary examination on an "out of area" proposal is to test whether a student has sufficient knowledge of neuroscience to identify an important problem and to plan an original experimental approach for its solution. The vehicle for the examination is a research proposal upon which the student is given an oral exam. The student is also examined on general knowledge of neuroscience and related fields, including but not limited to fields related to the topic of this research proposal.

Deadlines:

June 30 (end of first year): Student must either choose a laboratory for a fourth rotation or a Ph.D. thesis laboratory.

Those who have chosen a thesis laboratory must write a proposal on a topic not related to his or her future thesis proposal. This topic must be that is acceptable to his or her graduate advisor. The Neuroscience Program will assign faculty to serve as an examining committee. Attempts will be made to organize committees thematically.

August 1: Deadline for submission of proposals to Neuroscience program. Pat Veitch will distribute proposals to committee members.

September 15 (prior to registration for year 2): Deadline for taking preliminary examination. The Neuroscience Program will schedule the date for this examination sometime between mid-August and mid-September.

Students who choose to do a fourth rotation will have this schedule delayed by three months (i.e. November 1 submission deadline with examination finished by mid-January). For students who have chosen a laboratory, exemption from to these deadlines will be granted only in exceptional circumstances and must be approved by the program director.

Committee:

An examination committee of approximately three members will be chosen by the NS program. The committee members must be members of the Neuroscience Program. The student's Ph.D. thesis advisor may not be a member of the committee. Committee members are to be provided with a set of these instructions.



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Procedure:

1. The student will write the proposal. It is expected that the writing take no more than four weeks. His/her thesis advisor should not help in writing the proposal although he/she can obviously provide input on merit of specific aims and evaluations of experimental approaches in oral discussions.
2. The committee members must read the proposals within two weeks of their receipt. This is an examination, however, and many inadequacies will only be uncovered during an examination.
3. The committee has the responsibility to review the file before the meeting. The student's graduate advisor will have talked to each of the faculty who have directed the student's courses or laboratory rotations and will have provided a brief written report on the student's progress and summary of concerns or deficiencies.
4. The student will be examined on his or her proposal. The student should be prepared to give a short presentation no longer than 10 minutes on the proposal. The oral exam will usually center on the proposal and related areas. One of the purposes of the exam, however, is to see that students have a good general knowledge of neurobiology as covered in the courses and seminars of the first year. Once again, good understanding, and the ability to discuss important experiments and to integrate work from different areas is preferred to exhaustive and detailed knowledge. The examination typically lasts for approximately 50-80 minutes.

Possible Results

- a) Pass (committee should indicate level of enthusiasm (adequate, high, highest) in written report to NS program.
- b) Pass of proposal with requirement for specific course work or additional requirements, at the committee's discretion, to rectify deficits in any area or aspect of the proposal.
- c) Failure of proposal with requirement for rewriting and/or reexamination. In this case, revised proposals must be submitted within 45 days and reexaminations will be scheduled by the program in the following 30 days.
- d) Failure without reexamination.

II. Pre-Thesis Qualifying Exam (Official Qualifying Examination)

All students must complete NS201A, B, and C, all required laboratory rotations, one advanced NS program course, and successfully defend the outside proposal before submitting and defending the pre-thesis proposal.

For Ph.D. students, a draft of the pre-thesis proposal must be submitted within 6 months of their choice of a thesis laboratory and should be defended within 2 months of this submission. (For a student who chooses a thesis laboratory by June 30 in his or her first year, this would mean **submission of the pre-thesis proposal by December 31** of his or her second year and **defense by February 28** of the second year.

For University purposes, this proposal constitutes the **qualifying examination** and students must submit appropriate paperwork to the **graduate division** before defending this proposal. At the defense students may be queried on topics not directly relevant to their proposals.

The NS Program will not permit students who are on probation to take the examination for advancement to Ph.D. candidacy. Reasons for probationary status include failure to obtain a grade of B- or higher in NS 201A, B, or C or any advanced course offered by the NS Program, concern about laboratory performance, or ethical transgressions.

The NS program anticipates that a majority of the faculty on this examining committee will serve, together with the student's Ph.D. thesis mentor, on the student's thesis committee. This committee will provide periodic consultation and advice following successful completion of the qualifying exam and advancement to candidacy.

Formalization of this thesis committee does require submission of additional forms to the graduate division. Students should familiarize themselves with relevant graduate division policies. In absence of successful petition, these require that all faculty be members of the academic senate and that the same person not chair both the qualifying exam and thesis committees.

Deadlines:

December 31 (of year 2) – or within 6 months of joining a thesis lab:
Deadline for submission of pre-thesis proposal.

February 28 (of year 2) – or within 8 months of joining a thesis lab:
Defense of pre-thesis proposal.

UCSF Neuroscience Graduate Program

Committee:

1. An examination committee of four to five members will be chosen by consultation between the student and his/her thesis advisor and the graduate advisor of the program.
2. The committee members must be members of the academic senate with a minimum of two members of the Neuroscience Program.
3. The student's Ph.D. thesis advisor may not be a member of the committee.
4. The student shall ascertain that committee members are willing to serve.
5. The committee's composition must be approved by the program director.

Procedure:

1. The student will write the proposal. It is expected that the writing take no more than four weeks. His/her thesis advisor should not help in writing the proposal although he/she can obviously provide input on merit of specific aims and evaluations of experimental approaches in oral discussions.
2. The committee members must read the proposals within two weeks of their receipt. This is an examination, however, and many inadequacies will only be uncovered during an examination.
3. The committee has the responsibility to review the file before the meeting. The student's graduate advisor will have talked to each of the faculty who have directed the student's courses or laboratory rotations and will have provided a brief written report on the student's progress and summary of concerns or deficiencies.
4. The student will be examined on his or her proposal. The student should be prepared to give a short presentation no longer than 10 minutes on the proposal. The oral exam will usually center on the proposal and related areas. One of the purposes of the exam, however, is to see that students have a good general knowledge of neurobiology as covered in the courses and seminars of the first year. Once again, good understanding, and the ability to discuss important experiments and to integrate work from different areas is preferred to exhaustive and detailed knowledge.

The examination typically lasts for approximately 60-120 minutes.

Possible Results:

On the basis of the proposal and the student's performance in the examination, the committee shall decide upon one of the five alternatives:

a) Admission to candidacy for the Ph.D.

b) Admission to candidacy conditional upon successful completion (with a grade of B or higher) **of specified courses.**

c) Partial failure with reexamination.

d) Total failure with reexamination.

e) Failure without reexamination.

If the student is not admitted to candidacy after the first examination, a second examination must be scheduled.

After Passing the Pre-Thesis Exam:

Advance to Candidacy

Within 2 weeks of passing the qualifying examination, each student must file paperwork with the Graduate Division to "Advance to Candidacy." The Program will pay the cost of \$65 (please see Program administrator for details).

Thesis Committee Meeting

Students must hold a meeting of their Ph.D. thesis committee before beginning the 3rd year of study (before September 1). The program will not process paperwork for enrollment and stipend support for 3rd year students who have not done so unless the program director has approved an exception.

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Pre-Thesis Exam: Outline of Required Actions

1. Request to take the exam

Students must file paperwork with the Graduate Division in advance of taking the Pre-Thesis (2nd) exam only. No paperwork is necessary for the Out-of-Area Exam.

4-6 Weeks Before the Pre-Thesis Exam: Submit Request to Take Exam.

You must file an "Application for Qualifying Exam" form with the Graduate Division. The form is available at: <http://graduate.ucsf.edu/files/qual-exam/>

2. Report Pre-Thesis Exam Results

Immediately After the Exam: Committee Chair Must Report Exam Results to Graduate Division.

Immediately after the exam, your qualifying committee chair must complete and return the pass/fail form to the Graduate Division. The form is available at: <http://graduate.ucsf.edu/files/qual-exam-report/>

3. Advance to Candidacy

Within 2 weeks of Passing the Exam: Advance to Candidacy.

Steps to Advance to Candidacy

- a. Pre-Thesis Qualifying Exam Committee Chair must submit results of qualifying exam form to Graduate Division: <http://graduate.ucsf.edu/files/qual-exam-report/>
- b. Complete the Advance to Candidacy Request Form: <http://graduate.ucsf.edu/files/phd-advance/>
- c. Give Advance to Candidacy Form to Neuroscience Program Administrator.
- d. Administrator will keep a copy in student file and forward request to Graduate Division along with permission to charge fee to the Program. (There is a \$65 fee to advance to candidacy.)
- e. After you file Advancement to Candidacy form, you'll receive an email confirming that you've advanced to candidacy.

4. Hold a Thesis Committee Meeting

By August 31 (beginning of 3rd year): Hold Your First Thesis Committee Meeting.

Before registering for your 3rd year and in order to receive your stipend support, you must hold your first thesis committee meeting.

Pre-Thesis Exam: Duties of Qualifying Committee Chair

Paperwork

- Ensure that at least one month prior to exam, student files "Application for Qualifying Examination" with the Graduate Division. Student may not take exam if application has not been filed and if "Notice of Admission to Qualifying Examinations" has not been issued and received by you.

Meetings with Student

- Meet with student regularly prior to exam.

Before the Exam

- Read student's proposals within 2 weeks of their receipt.
- Retrieve and review student's file, ensuring that student and faculty lab rotation reports are in file.
- Talk to each of the faculty who has directed each of the student's courses and lab rotations and the director of his/her thesis research.

Examination

- Summarize student's progress to the committee before the start of the exam: "Should this student be admitted to candidacy?"
- Be present at the examination and ensure that the proposal is presented and discussed fairly and critically.

After the Exam

- Complete form notifying Graduate Division of outcome of exam.
- Notify program administrator of outcome of exam.
- Return student's file to program administrator.

III. Out-of-Area and Pre-Thesis Proposal Format

Each student will write a proposal that covers an area of research independent of his or her future thesis proposal. It is expected that the student will have read and assimilated the relevant literature for the proposal. The student should feel free to consult any persons with expertise, at UCSF or elsewhere, during the process of developing the specific aims and writing the proposal. The outline of the proposal should be roughly that of an NIH grant, with an introduction and sections devoted to background material, specific aims, experimental design, and methods. The proposal should be well organized, give evidence of imaginative and careful thinking, and be oriented primarily toward the proposed experiments. The proposal must clearly state the interpretation and significance of the findings of the proposed experiments, and should indicate priorities of the different experiments and strategies for dealing with unsuccessful experiments, or results different from those hoped for. As a rule, the text (excluding the references) should not exceed eight double-spaced pages (12 pt. font). In unusual cases a student may wish to write a slightly longer proposal, but it should be understood that the committee's first impulse will be to suspect an attempt to disguise poor organization and an inability to be selective.

Introduction: Should clearly set out the overall aims of the project within a perspective that makes the reasons for doing the problem intelligible to the non-specialist.

Background: Should demonstrate that the student has a good grasp of present knowledge. The summary of what is known is not expected to be exhaustive, but should be critical and synthetic. Limitations of experimental evidence and unsolved problems should be identified. This section should describe impact and importance of proposed project. Citation for its own sake is not useful; a student should be prepared to discuss any referenced paper.

Preliminary results are not required for the "out of area" proposal.

Specific Aims: Should list 2 to 5 specific goals for the project.

Experimental Design: Should describe experimental approaches and demonstrate knowledge of the methods to be used and their limitations.

References: 20 - 30 as a general guide. More than that will convey an impression of too much reading and not enough thinking.