Guidelines and Regulations for Doctoral Study in the CNUP Training Program AY2009-10
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1. OVERALL OBJECTIVES OF THE GRADUATE PROGRAM

The predoctoral training program of the Center for Neuroscience at the University of Pittsburgh (CNUP) has been designed to accomplish the following objectives:

- To develop competence in conducting laboratory research; to plan, execute, report, and defend original research in the field of neuroscience.

- To develop general excellence in neuroscience and specific expertise in one or more areas of neuroscience such as cognitive neuroscience, developmental neurobiology, homeostatic regulatory systems, membrane biophysics, modeling of neural circuits, molecular neurobiology, neuroanatomy, neurochemistry, neuroendocrinology, neuropharmacology, and neurophysiology.

- To develop a general professional excellence in oral and written expression, in the critical analysis of primary scientific articles, and in teaching.

- To develop fundamental skills in scientific reasoning required to define research questions and devise innovative strategies as a means for adapting to the continually evolving landscape of neuroscience and neuroscience research.

In formulating the graduate training program, the faculty has been guided by several principles. First, the program should aid each student in the development of an individualized training program based on the student's background and interests. Second, research experience should form the core of each student's training and as such should not be postponed by a lengthy period of time devoted exclusively to course work. Third, students should be able to complete the program in four to six years. Fourth, students should be evaluated in terms of those competencies that are important to a research scientist: designing, conducting and evaluating research, both their own and that of others. Thus, the progress that a student makes in the program is considered primarily in terms of the student's performance as an investigator.

2. PURPOSE OF THIS DOCUMENT

"Guidelines and Regulations for Doctoral Study in the CNUP Graduate Training Program" is a document written by the CNUP graduate training faculty in consultation with the graduate students. The Guidelines are meant to supplement the Regulations Governing Graduate Study at the University of Pittsburgh and thereby provide a complete handbook for students that detail the Program's rules, expectations, and recommendations for each aspect of the graduate program. Questions regarding specific issues of the graduate program should be directed to the Co-Directors of the CNUP Graduate Program (see below).
2.1. Changes to the Guidelines

Each graduate student will be given a copy of the Guidelines when they enter the program. To ensure that students are given an up-to-date version of the Guidelines, a new edition will be dated and printed at the beginning of each fall term. Each summer, the Co-Directors of the CNUP Graduate Program will oversee the editing of the Guidelines. Student input will be solicited. Major changes will be circulated among the faculty and students for comment. It is expected that this annual revising of the Guidelines will not result in any substantive change in the graduate program. Rather, this process is expected to update or clarify aspects of the previous edition. Major substantive alterations in the Guidelines (e.g., a change in the format of the Comprehensive Exam) would require additional discussion by the faculty and students before being implemented.

During their progression through the Program, each student should refer to the Guidelines that were current when they entered the Program.

3. ADVISORS

To aid the student in satisfying the objectives outlined in this document, the faculty has created separate mechanisms for providing academic and research advice. Upon entering the Program, each student selects a research mentor that supervises their first laboratory rotation. Advice on academic issues and other issues relating to graduate education will be handled formally by the Co-Directors of the Graduate Program who will also serve as general advisors to the student during their first year. Students are also encouraged to establish an informal research advisory committee consisting of their research mentor and two other members of the CNUP training faculty.

3.1. Co-Directors of the Graduate Program

The Co-Directors of the CNUP Graduate Program (currently, Drs. Brian M. Davis and Linda Rinaman) have the primary responsibility for ensuring that the graduate program is running effectively. Students who have questions related to required coursework, curriculum development, or completion of Program milestones should consult with either of the Co-Directors on these matters. The Co-Directors are responsible for approving student registration forms, approving the composition of student evaluation committees (i.e., Reprint Exam, Second Year Research Evaluation, Comprehensive Exam, and Dissertation committees), and may at their discretion approve minor modifications in Program academic requirements for students on an individual basis.

The Co-Directors of the CNUP Graduate Program are also responsible for the annual evaluation of each student (See Yearly Evaluations – Section 7) and they therefore serve as Co-Chairs of the CNUP Student Evaluations Committee. This committee consists of six members of the training faculty in addition to the Co-Directors of the Graduate Program. The major function of this committee is to facilitate the students' progress through the Program by providing them with thorough yearly evaluations and advice regarding their development. This committee also serves as an advisory committee for the Co-Directors of the Graduate Program.

The Co-Directors of the CNUP Graduate Program are assisted by the CNUP administrative staff. These staff (Joan Blaney and Patti Argenzio) are responsible for maintaining student folders,
notifying students of upcoming deadlines, scheduling exams and committee meetings, and monitoring the status of students.

3.2. Research Advisor

At all times during their graduate training, students will be engaged in laboratory research. While a student is working within a faculty member’s laboratory, that faculty member will serve as the student’s research advisor. Research advisors are limited to CNUP training faculty members. Students seeking specialized training may work with graduate faculty members outside the CNUP only during the second and third rotation periods, provided they receive prior approval from a CNUP Co-Director.

Students and their research advisors should discuss the nature of their interactions so that each has a full understanding of what they should, and should not, expect from one another. The students should understand that different faculty members have different styles of interacting with students. New students are encouraged to consult with the Co-Directors of the CNUP Graduate Program and with senior students to obtain additional perspectives concerning the mentoring styles of different faculty members.

3.2.1. Workload and Vacation

CNUP graduate students are financially supported for full-time and year-round work, whether that support derives from institutional support, faculty research grants, training grants, or individual student fellowships. Upon selecting a thesis laboratory, students and mentors should discuss mutual expectations for daily and weekly student research time spent in the laboratory and time spent in other research-related tasks. Every project will have different requirements, and student progress will be intimately related to time and effort expended. Regarding vacation time and occasional days off, students are eligible for all faculty and staff university holidays. In addition, students are encouraged to take a somewhat longer vacation break (typically two weeks per year) after discussion and approval by the mentor.

4. GRADUATE PROGRAM

The following sections outline the academic courses, the research experiences, and the oral and written examinations (herein referred to as "milestones") that the student must successfully complete prior to being awarded the doctoral degree. A calendar listing the deadlines associated with these milestones is included at the end of this document. These requirements are described in terms of the academic and research accomplishments expected during each year of the student's progress through the Program. Deviations from the outlined sequence and time schedule must be approved by the Co-Directors of the Graduate Program.
4.1. Overview of Requirements

The Ph.D. program in Neuroscience has a 23-credit course requirement covering fundamental material. This requirement is fulfilled by core courses in cellular and molecular biology, systems neuroscience, and by 9 credits of elective courses.

Additional requirements of the Ph.D. program include:
- completion of a 1 credit course in professional ethics
- completion of a graduate level course in statistics
- attending Pro-Seminar during the first year
- attending CNUP journal club every Fall and Spring term through advancement to candidacy (i.e., until approval of the dissertation proposal).
- attending research seminars on a regular basis
- obtaining research experience in at least two separate laboratories
- serving as a Teaching Assistant for at least one term (or course)

Graduate students must receive a grade of at least a B to pass a course and must maintain a cumulative grade point average (QPA) of at least 3.0.

Students are required to pass three milestones en route to the doctoral degree: the Preliminary (Reprint) Exam, the Comprehensive Exam, and the Dissertation Defense.

Students should refer to the Regulations Governing Graduate Study at the University of Pittsburgh for additional details concerning University requirements.

4.2. Yearly Sequence of Requirements and Expectations

4.2.1. Entering Students: Entering students should schedule an introductory meeting with one of the Co-Directors of the Graduate Program in order to discuss issues related to being a graduate student. The purpose of this meeting is to answer questions that the student may have and to assist the student in getting settled in the program. Prior to the beginning of the student's first term, the student, with the aid of the Co-Directors, outlines a plan of study for the first two years.

4.2.2. First Year: The major objectives of the first year are to select a laboratory for dissertation research, complete the core course curriculum, and obtain sufficient experience through courses and research to pass the preliminary or "Reprint" Exam.

It is required that students participate in the following activities during the Fall and Spring terms of their first year: (a) laboratory research, typically consisting of laboratory rotations in at least two different laboratories (see section 5.1 on Research Rotations), (b) two courses of the core curriculum in neuroscience (Cellular and Molecular Neurobiology 1 and 2, and Systems Neurobiology), (c) Pro-Seminar, (d) journal club, and (e) research seminar. During the first year, students typically register for 3-6 research credits of Directed Study (MSNBI0 2690 or NROSCI 2902) per term.

Following the spring term of the first year of study, each student takes the Preliminary (Reprint) Exam (see Section 9.1).
During the summer term following the first year, students are expected to complete the ethics course requirement and focus on research. In addition, students may choose to take a graduate-level statistics course.

By the end of the first year, students should have selected a dissertation advisor. This must be done by the end of August of the first year unless students receive special permission, in writing, to extend this for an additional rotation period from the Co-Directors of the graduate program.

4.2.3. Second Year: The major objective of the second year is to begin work towards a dissertation project.

During the Fall and Spring terms students will generally participate in (a) research (registered for as 6-9 credits, MSNBIO 2690 or NROSCI 2990), (b) elective coursework, (c) statistics, (d) journal club, and (e) research seminar. A list of elective courses currently offered can be obtained from a CNUP administrative office.

It is expected that most students will complete the Program’s teaching requirement during their second year (see Section 6).

The annual evaluation at the end of the second year includes a research presentation to the student’s research committee (see Second Year Research Evaluation in section 9.2).

Establish Comprehensive Exam Committee by August 1st (see section 9.3.1).

4.2.4. Third Year: The Comprehensive Exam (see section 9.3) must be completed by February 28 of the third year. In addition, the dissertation committee must be formed and the dissertation proposal presented for approval during the third year in the program.

In this and subsequent years graduate students are expected to be involved in research, to participate in a journal club and research seminars, and to take additional courses as necessary.

4.2.5. Subsequent Years: The major objective of the remainder of a student's graduate program is to complete the doctoral dissertation (see Section 9.4). Students continue to attend Research Seminar for each Fall and Spring term they are enrolled in the Program. Participation in the CNUP sponsored journal club becomes optional, though encouraged, once a student is admitted to candidacy.

4.3. MD/PhD Students

MD/PhD students are expected to follow an accelerated schedule designed to aid the student in completing the program of study in 3 years. The requirements for MD/PhD students are identical to those of PhD students, except that MD/PhD students are not required to take the two core neuroscience courses (Cellular and Molecular Neurobiology 1 and 2 and Systems Neurobiology). MD/PhD students are required to complete a minimum of 6, rather than 9, hours of elective coursework, a graduate-level course in statistics, and a 1 credit graduate-level course in research ethics.
Research requirements for MD/PhD students are the same as those for PhD students. MD/PhD students complete their first laboratory rotation during the summer prior to beginning medical school, and their second laboratory rotation during the summer between the first and second year of medical school. MD/PhD students must select their dissertation advisor before entering the graduate program. The teaching requirement is optional for MD/PhD students.

5. COMPONENTS OF THE PLAN OF STUDY

In developing a plan of study, students are expected to strike a balance between breadth in neuroscience and depth in their area of specialization. Students are encouraged to be innovative in designing their graduate training experience. Thus, courses are defined as any accredited interaction between a student and one or more faculty members. This includes formal lecture courses (usually but not always at the graduate level), seminars, or tutorials at the University of Pittsburgh, CMU, or at other universities, research institutes, or special study programs. Credit for coursework outside of the University of Pittsburgh is subject to the approval of the program Co-Directors.

5.1. Research Rotations

Each student is required to spend at least one term conducting research in a laboratory other than the laboratory in which they do their dissertation research. This will typically be done as research rotations during the first year. The first year is divided into two research rotation periods with additional rotation periods during the summer before or the summer after. Rotations officially begin on the first day of classes and end on the last day of classes each term (see the University calendar for specific dates). Students are required to begin their first research rotation no later than the first day of the Fall Term. The first rotation must be with a member of the CNUP Graduate Training Faculty. This research rotation is set up by arrangement between the student and the specific training faculty member, who serves as the student’s research mentor during that rotation period. In addition, the student is encouraged to establish a research committee consisting of the research mentor and two other members of the training faculty. The student will need to fill out a “Research Rotation Form” listing the research mentor and submit the form to a CNUP administrative office within one week of beginning the research rotation.

By the last day of each of the first two laboratory rotation periods, the student must submit a rotation report to his/her research advisor and to a CNUP office (see description of the Rotation Report below). The research mentor will submit an evaluation of the student’s performance during the rotation. Rotations are graded satisfactory/unsatisfactory. Unsatisfactory rotations will not count toward the required two and will result in the student being placed on probation.

At the end of the student’s first rotation, the student will typically move to a second laboratory to complete a second research rotation. At the end of the second research rotation, the student may elect to remain in the same laboratory, return to the initial laboratory, or move to a third laboratory for an additional research rotation. Rotation reports are required only for the first two rotation periods; if a student chooses to do a third rotation, a report is not required. It is expected that the rotations selected by each student will reflect a goal-directed effort to identify a suitable laboratory for doctoral dissertation research. It is also important to understand that some mentors may not be able to accommodate rotation requests. Students are therefore encouraged to
take a proactive approach in planning rotations and to approach potential mentors well in advance of the desired rotation period.

Students are expected to complete a minimum of two laboratory rotations prior to declaring a thesis laboratory. Under certain circumstances, and with prior approval from the graduate program co-directors, other arrangements may be made.

5.1.1. Rotation Report: The main goal of the rotation report is to produce a scholarly account of the research activities undertaken by the student during that rotation period. In general, the report should include 5-8 pages of double-spaced text and any useful figures. It may utilize the standard format of scientific journals (i.e., Introduction, Methods, Results, Discussion) or instead have a more narrative style in which the research problem, the methods, and the outcomes are described and discussed much like a seminar presentation. In either case, it is essential that the student provide a comprehensive description of their research accomplishments and how they see them contributing to their long-term research objectives. Copies of the report must be given to the research mentor and to a CNUP administrative office. Rotation mentors are expected to provide to the Program Co-Directors a written evaluation of the student’s research work and rotation report. Rotation reports are due on the final day of the rotation period.

5.2. Core Curriculum in Neuroscience

The core curriculum consists of two courses, designed to be taken during the first year. The first core course, Cellular & Molecular Neurobiology 1 and 2 (MSNBIO/NROSCI 2100/2101), deals with issues of cellular and molecular biology and is offered during the Fall term. The second core course is Systems Neurobiology (MSNBIO or NROSCI 2102). It focuses on the functional anatomy of the mammalian brain and is offered during the Spring term.

5.3. Electives and Tutorials

Students must also take elective courses in order to further their expertise in neuroscience. A listing of courses identified by the CNUP Curriculum and Education Programs Committee that satisfy the elective requirement is available from the Graduate Administrators. Students may also establish tutorials in specialized areas for which formal courses are not available. In such cases, a student (or group of students) identifies a faculty member willing to serve as a tutor and develops a syllabus, including a mechanism by which competency in the area will be assessed. The syllabus must be approved in advance by the Curriculum Committee. The subject matter of these tutorials usually will be "academic" in nature; i.e., with a focus on the reading of primary and secondary literature. It also may involve learning new laboratory techniques. Journal clubs cannot be used to satisfy the elective requirement.
5.4. Statistics

Students are required to obtain a fundamental expertise in statistical and quantitative analysis of data that is appropriate to their area of research. Students are required to take a graduate level course in statistics to meet this requirement. While any graduate-level statistics course may be used to fulfill this requirement, Intro to Statistical Methods 1 (BIOST 2041) is a standard graduate-level introductory biostatistics course and as such is generally well-suited for most CNUP students; it is offered during the Summer and Fall terms. More sophisticated courses in statistical analysis are also available; students should consult with the Graduate Administrators or Co-Directors for further information on these courses. When available, a placement examination may be taken as a means of fulfilling the statistics requirement; if the examination is successfully passed, the student will be exempt from the taking the course.

5.5. Pro-Seminar

Pro-Seminar is a required two-term course taken during the Fall and Spring terms of the first year of graduate study. The goal of this course is to provide first year students with an overview of research being conducted in the laboratories of members of the training faculty. The course meets informally once per week over dinner and provides an excellent opportunity for students to learn about the diversity of research programs in the CNUP.

5.6. Journal Club

Each student is required to attend a weekly journal club sponsored by the program each Fall and Spring term through their admission to candidacy (see section 9.4.3). Participation thereafter is encouraged but not required. The goal of this experience is to provide students with a multidisciplinary perspective on the critical analysis of the neuroscience literature. Each term, students will be divided into groups of 10-14, and each group will be assigned a faculty supervisor and a weekly meeting time. If a student has a conflict with their assigned time, they should contact a Graduate Administrator to get reassigned. Each student is required to present a paper in journal club at least once each term, and it is expected that the more senior students will make their presentations earlier in the term whereas the more junior students will make their presentations later in the term. At the initial meeting each term, each student will sign up for a week that they will be responsible for selecting and presenting the journal article. The presenting student is also responsible for selecting another faculty member to attend journal club that week in order to provide particular expertise for the paper. Presentations will be critiqued by both students and faculty supervisors. Presentations that are not considered acceptable by the faculty supervisors must be repeated. In addition to presenting a paper once during the term, each student is required to read the selected paper each week and be prepared to discuss it. Active participation in journal club is viewed as an essential component of the graduate training program and will be considered in determining acceptable performance.
5.7. Seminar Series

Each student is required to attend research seminars on a regular basis. Each Fall and Spring term that the student is enrolled in the graduate program, they must register for Seminar Series (MSNBI0 2660 or NROSCI 2106, pass/fail). This “course” requires that the student attends at least 10 relevant research seminars during the term. Students must send an e-mail message summarizing their attendance record to the seminar coordinator of the course for which they registered. This may be done either one at a time or at the end of each term. Acceptable seminars are those that involve a formal presentation of data in one of the departmental seminar series. Journal clubs, dissertation defenses, or informal presentations of data in laboratory meetings or student sponsored meetings (e.g., “Brain Bag”) cannot be used to satisfy this requirement. Seminars presented at meetings off campus also do not count towards satisfying the requirement. This includes the annual CNUP and CNBC retreats, Society for Neuroscience meeting, etc.

5.8. Professional Ethics and Practices

All students are required to show ethically appropriate behavior in the conduct of research and mastery of safe laboratory practices. These competencies extend to the treatment of laboratory animals, collection of data, publication of data, and use of references to previous literature. Further, all documents submitted to satisfy curriculum or research requirements of the Program should be free of plagiarism and conform to the rules defined in the University of Pittsburgh Honor Code (www.pitt.edu/~graduate/aistudcode1.html). All students must attend training sessions in Radiation Safety, Environmental Health & Safety, and Library usage. Training in each of these areas is arranged as part of the orientation at the onset of study in the program. All students are also required to familiarize themselves with the NIH "Guide for the Care and Use of Laboratory Animals" (1996), the Handbook for the Use of Animals in Research, Testing, and Teaching at the University of Pittsburgh, and Guidelines for Ethical Practices in Research (University of Pittsburgh, May 1997). All students using animals in their research must attend the appropriate training session(s) conducted by the Division of Laboratory Animal Resources. Publications detailing requirements in each of these areas are available on web-sites and can be obtained from the appropriate campus regulatory agencies. In addition, students should familiarize themselves with acceptable publication practices described by the Society for Neuroscience (Journal of Neuroscience, January, 1999 and http://apu.sfn.org/content/Publications/HandbookfortheUseofAnimalsinNeuroscienceResearch/Handbook.htm).

All students are required to complete a formal training program on research ethics during their first year in the program. It is expected that this requirement will be fulfilled by taking a 1 credit course in Scientific Ethics (MSNBIO/NROSCI 2010) during the first summer term.

5.9. Annual CNUP Retreat

The yearly CNUP retreat occurs at the beginning of each Fall term. The CNUP retreat is organized and implemented by a select committee comprising CNUP graduate students, post-docs, faculty, and staff. The CNUP retreat includes an outstanding scientific program, entertaining recreational opportunities, and an environment that fosters both social and professional interactions. There is no charge for graduate students to attend this event, and all CNUP graduate students are required to attend unless they obtain written permission from one of the Co-Directors of the CNUP Graduate
Program. Acceptable reasons for not attending the CNUP retreat include attendance at other scientific meetings, job interviews or other professional activities that cannot be rescheduled. In addition, graduate students are required to present posters at least twice during their time in the graduate program. These posters can be the same posters used for other scientific meetings occurring in the last 12 months (e.g. posters used for the Society for Neuroscience meeting) or they can be new presentations.

6. TEACHING BY GRADUATE STUDENTS

Teaching is seen as an important component of the graduate training program. It provides experience in classroom instruction as well as an opportunity to obtain a broader perspective of neuroscience. In general, second-year students serve as teaching assistants to members of the training faculty for one term or one full course. As such they are typically responsible for conducting recitation sections, teaching laboratory exercises, holding office hours to answer questions of class members, and helping to prepare, proctor, and grade exams.

Some students may elect to become more involved in teaching. To enable this goal, certain faculty allow graduate students to give classroom lectures in their undergraduate courses. Students wishing to obtain this enriched teaching experience should contact a Graduate Administrator.

7. EVALUATION OF GRADUATE STUDENTS

7.1. Yearly Progress Reports

By June 15th of each year all students must submit an NIH-style biographical sketch and a progress report summarizing their activities during the past year and their plans for future study. This report will serve as the focal document for the annual student evaluation by the CNUP Student Evaluations Committee, although reports from the student's research advisor, committee chairpersons, course instructors, teaching supervisors, etc. will also be incorporated into the evaluation. Therefore, the progress report should incorporate everything the student wishes the faculty to know at the time of the evaluation. It should be organized as follows:

a) a statement of prior year's goals and the extent to which they have been achieved,
b) a list of the courses taken and the grades attained,
c) a description of research efforts including clearly stated scientific rationales and goals,
d) a list of Program "milestones" completed,
e) a list of any awards or honors attained,
f) a list of manuscripts and abstracts published or submitted,
g) a list of attendance and presentations at scientific conferences, and
h) a statement of specific objectives for the coming academic year.

The length of the progress report can vary from 2 to 10 pages (double-spaced). Detailed reports from first- and second-year students are particularly important because the faculty generally know less about them than about more senior students.
These reports should be submitted to the CNUP Graduate Administrators (Joan Blaney, A210 Langley Hall, and Patti Argenzio, E1448 Biomedical Science Tower).

7.2. Annual Student Evaluations

All students are evaluated by the CNUP Student Evaluations Committee each year after the end of June. Results of these evaluations are reported to each student in a letter from the Co-Directors of the Graduate Program. This letter may be supplemented by a discussion between the student and a member of the committee to clarify the letter, if necessary, or to discuss additional aspects of the student's progress. Students are also encouraged to discuss this evaluation with their research advisor. In evaluating students, the committee considers performance in laboratory research, course work, teaching, journal club, mastery of the relevant scientific literature, performance on any major examinations that have been taken during the past year, and contributions to the community at large. Copies of the yearly evaluation letter are sent to the student’s research advisor and become a part of the student’s file.

7.3. Mid-year Evaluation of First-Year Students

The progress of first-year students in laboratory research and coursework is reviewed by the CNUP Student Evaluations Committee in January or early February of their first year. This early evaluation is to provide feedback to the students on their progress, while also identifying any problems that might have arisen so they can be corrected promptly. Following this evaluation, students will be given a written statement summarizing the committee's perception of their progress.

More advanced students who have experienced difficulties during the previous year may also be re-evaluated at mid-year. As part of this evaluation, the student will be required to provide the Committee with a written report addressing problems areas.

7.4. Program Probation

Students experiencing difficulties may be placed on Program Probation. A student who fails one of the "milestone" examinations (see Section 9) is automatically on probation until the requirement is successfully completed. A student may also be placed on program probation for continued inadequate performance in the laboratory or failure to complete program milestones in a timely fashion. Students on program probation remain so until explicitly informed otherwise by the program Co-Directors; this typically would occur after the summer or mid-year meetings of the Evaluations Committee. "Program Probation" is different from "University Probation" (see-Section 7.5) in that it does not preclude financial support from the University.
7.5. University Probation

The University requires that all graduate students maintain a QPA of 3.0 or above to undergo the preliminary evaluation, to take the comprehensive examination, to be admitted to candidacy for the Ph.D. degree, and to be graduated. Students whose QPA falls below 3.0 must be put on “University probation” and cannot be awarded financial assistance from the University (e.g., teaching assistantship) until they have re-established a QPA of 3.0 or above.

7.6. Termination of a Student from the Graduate Program

Students may be terminated from the Graduate Program for failure to pass two required core courses or one of these courses on successive occasions, failure to pass the Reprint Exam, Comprehensive Exam, or advance an acceptable dissertation proposal, failure to make adequate progress in laboratory research including unsatisfactory performance in the Second Year Research Evaluation, or breaches in ethical conduct such as plagiarism. Except for instances involving breaches in legal or ethical behavior, students will not be terminated from the Program without first being notified in writing that they have been placed on probation. This written communication will include a detailed description of the reason(s) for placing the student on probation, and the goals that the student must accomplish in order to regain good standing in the Program. Students will typically have one term to resolve their problems and get off probation or they will be terminated from the Program.

When a student who is not on probation fails one of the major examinations listed above, the student will be placed on probation and given a second opportunity to pass that examination. The student will receive a written communication from the committee that evaluated performance on the exam detailing the deficiencies in performance and what must be accomplished to satisfy these concerns. The second examination must be taken within three months of the first examination, unless otherwise approved by the Program Co-Directors. Failure to resolve issues of concern on the second examination will result in termination from the Program. When a student who is already on probation fails one of the major examinations, they may or may not be given a second opportunity to pass that examination, at the discretion of the CNUP Student Evaluations Committee.

When a student is informed that his/her laboratory research progress has been judged unsatisfactory, the student will be given one term to improve laboratory skills and productivity before being reevaluated. A second determination that laboratory performance is substandard, at this time or during any subsequent evaluation, will result in the student's termination from the program.

In all cases, the termination of a student requires a decision by the CNUP Student Evaluations Committee and acceptance of a recommendation for dismissal by the Directors of the CNUP. Termination decisions cannot be made by an individual faculty member or examination committee. Terminations are final.
7.7. Terminal Masters Degree

If students leave the program, whether voluntarily or not, after having completed the following requirements, they may write to the CNUP Graduate Student Evaluations Committee petitioning to receive a Masters Degree. Students wishing to receive such a degree must fill out an “Application for Graduation” form as mandated by the University. The requirements for a Masters degree include: passing the two required core neuroscience courses, at least one elective course, the Preliminary (Reprint) Exam, Proseminar, at least two terms of journal club, at least two terms of research seminar, and at least four terms (including summers) of laboratory work.

Students must also submit and defend a Masters thesis and publicly present their Masters research. The student should assemble a Masters thesis committee consisting of at least three members of the CNUP training faculty, including the students' research advisor. The thesis committee must be approved by the Program Co-Directors. The nature and scope of the thesis must be approved during an initial meeting of the student with the committee. The student should anticipate this meeting by distributing a document that proposes the body of work that will form the basis for the Masters thesis. The thesis should be based on a comprehensive review of the research topic that has been the focus of the student's work in the training program. To the extent possible, the thesis should include a description of experimental procedures and results comparable to reports published in leading neuroscientific journals. At a minimum, the review must be supplemented by a description of experimental methods and analyses of obtained data at a level that reflects the laboratory experience of the student. For the Masters thesis format see the University’s on-line Style and Form Manual at: (http://training.cssd.pitt.edu/thesisdissertationtemplates.htm).

Students wishing to obtain a Masters degree en route to the PhD, and working under the direction of a faculty member in the Department of Neuroscience, may apply for the degree through the School of Arts and Sciences. The requirements for the degree are the same as stated above for a terminal Masters degree.

8. SPECIAL STATUS

8.1. Leave of Absence

Students may request a leave of absence from the Program. Such requests should be made in writing to the Co-directors of the Graduate Program. Requests should include the reason for the request and the duration of the requested leave. Leaves of absence are subject to the approval of the Associate Dean for Graduate Studies of the appropriate school (determined by the affiliation of the student’s research mentor). Students considering taking a leave of absence should consult the Regulations Governing Graduate Study at the University of Pittsburgh regarding policies on leaves of absence.
9. EXAMINATIONS

Note: Specific forms are required in association with some of the milestone exams. The relevant forms, and their filing procedures, should be obtained from the appropriate CNUP Graduate Office.

9.1. First Year Preliminary Exam (Reprint Exam)

During the first year students are expected to obtain experience in the critical evaluation of original research reports. This training is provided in part by the conference sections of the core courses, and are typically supplemented by a program of supervised reading with their research advisor. Students are strongly encouraged to seek their advisor’s counsel in preparing for this exam. It is required that the preliminary or "Reprint" Exam will be taken by May 31 of the first year. By May 1, the student must submit the completed Reprint Examination Form identifying the proposed committee members and the date on which the exam is scheduled. Students wishing to postpone this exam past May 31 of the first year must receive prior approval from the Co-Directors of the Graduate Program.

The Preliminary Exam primarily serves to set a standard of competency in the critical evaluation of research articles and in oral expression, a standard which students are expected to attain early in their graduate career. In addition, it helps the faculty to identify areas of weakness in this skill.

To begin the process, the student writes a brief description of the general area in which he/she would like to be examined and selects a Reprint Exam committee, consisting of three CNUP graduate training faculty members. The committee is selected by the student with the assistance of the research advisor. A fourth member of the committee from outside the CNUP training faculty may be added for a particular area of expertise. Typically the current research advisor serves as the chairperson of this committee. The composition of the committee must be approved by the Program Co-Directors. Two weeks before the exam, the committee selects a suitable paper in the area of interest and provides a copy to the student. Students are permitted to suggest papers beforehand but final selection is at the committee’s discretion.

At the examination the student presents background material and discusses the paper's major points, analyzing the rationale for the research, the methodology chosen, the validity of the evidence obtained, and the conclusions drawn from the analysis. Thirty minutes are provided for this presentation. The student then is questioned on the presentation and other relevant issues. At the conclusion of the presentation, the committee selects one of two options: pass or fail. If the student fails, then the exam may be taken a second time provided that the student was not already on probation. If the student is already on probation, then failure may, at the discretion of the CNUP Student Evaluations Committee, result in termination of the student from the program. Failing the Reprint Exam, or any other program milestone, results in the student being placed on probation. A failed Reprint Examination must be retaken within three months unless otherwise approved by the Program Co-Directors; the exam will follow the same procedure and format as the first exam but with a new article selected by the exam committee. It is expected that the exam committee will remain the same, though students may petition the CNUP Student Evaluations Committee to request that one member of the committee be changed.
9.2. Second Year Research Evaluation

A formal evaluation of research progress is conducted at the end of the second year. As part of their Annual Progress Report at the end of the second year (submitted by June 15th), the student submits to the Program Coordinators a written description of their research activities during the first two years and selects a Second Year Research Committee, consisting of the research mentor who serves as committee chair, and two additional CNUP graduate training faculty members. The composition of the committee must be approved by the Program Co-Directors. An important objective of the second year research report is to describe how the student’s research efforts have contributed to the important goal of defining a doctoral dissertation laboratory. This research report should be approximately 8-10 double-spaced pages of text, plus figures and tables describing the results of experiments. The student also provides this written report to their Second Year Research Committee for review. The meeting in which the committee evaluates the student’s progress must occur before July 31 and the date of the scheduled meeting must be included in the progress report. It is the student’s responsibility to circulate his/her research progress report to the committee a minimum of a week prior to the meeting.

At the Second Year Research Evaluation meeting, the student presents a 20-30 minute overview of their research, during or following which the student is asked questions pertaining to the research project. The student is expected to be knowledgeable in the area in which he/she is working and to be able to defend specific aspects of their research project.

The chair of the research committee provides a written evaluation of the student’s research progress (i.e., either acceptable or unacceptable) to one of the CNUP Graduate Administrators, Patti Argenzio (argenzio+@pitt.edu) or Joan Blaney (jblaney@pitt.edu). If the student’s research progress is viewed as unacceptable, he or she will be given one term to improve research progress to an acceptable level. In this instance the student will be provided with a written evaluation identifying the areas of concern and stipulating what must be accomplished to resolve concerns. If a student is already on probation, he or she may be terminated from the Program. Dismissal would be contingent upon a review of the issues by the CNUP Student Evaluations Committee and acceptance of a recommendation for dismissal by the Directors of the CNUP.

9.3. Comprehensive Examination

The Comprehensive Examination is the major requirement that a student must pass before being admitted to candidacy for the doctoral degree. This exam provides the student with an opportunity to master a literature that is relevant to their research interests and ultimately to demonstrate that the needed competency has been achieved. The format of the exam is also designed to provide training in the preparation and defense of grant proposals.

The specific educational goals of the Comprehensive Exam are to test the student's ability to:

- independently evaluate and critique a body of neuroscience literature,
- integrate the acquired information into broad conceptual schemes,
- develop testable hypotheses,
- devise experimental approaches and thereby evaluate hypotheses,
- demonstrate the communication skills required to present and defend scientific ideas
in oral and written formats.

The topic of the Comprehensive examination is expected to overlap with the student’s research interests and general dissertation goals. In addition, it is expected that the proposed plan be original in its conception and scholarly in its execution. This means that the research proposal submitted for the comprehensive examination must be demonstrably different from work that has been previously designed and discussed or written up in any form by either the student or the research mentor.

Students should begin planning for the Comprehensive Exam near the end of the second year. The Exam must be completed no later than February 28 of the student's third year in the graduate program, and students are strongly encouraged to do this earlier, if possible. Any requests for a delay in this schedule must be made in writing to the Co-directors of the Graduate Program; such requests should include a reason for the delay, as well as the time when the student proposes to take the exam. Note that the student must have his/her Comprehensive Exam committee approved by the Co-directors of the Graduate Program no later than August 1 of their second year; by that time students must also have decided upon a tentative Exam date. Failure to do so may result in a delayed re-appointment and an interruption in graduate stipend payments.

9.3.1. Committee: The Comprehensive Exam committee is selected by the student, but must be approved by the Co-Directors of the Graduate Program. This committee must be established by the end of the second year (August 1). The committee consists of at least four members, and must contain at least four members of the CNUP graduate training faculty. The research advisor is generally a member of the committee but cannot serve as its chairperson. Prior to its first meeting the student should select a chairperson.

9.3.2. Initial Proposal and Meeting: Prior to the first meeting, students submit to their committee a brief description of three research topics (approximately one paragraph for each area) from which they would like their exam topic to be chosen. The proposed topics should reflect an informed analysis of the relevant literature and should be supported by essential citations. At this meeting a general agreement is reached as to the specific research topic on which the student will be examined, with the committee selecting from one of the three topics the student has provided. The committee may decide to modify one of those topics or assign a different though related topic. The committee will ensure that the topic that is agreed upon does not overlap excessively with the student’s dissertation project. In this regard the goal is for the student to develop expertise in literature and technical approaches different from, or in addition to those anticipated to be components of their dissertation research.

9.3.3. Written Exam: After receiving the specific research topic students have 5 weeks to write a “grant application” based on this problem. Thus, students will need to evaluate the literature in the selected area, formulate significant and relevant hypotheses, and devise experimental strategies to test their hypotheses. The written report should follow the basic form of an NIH RO1 application, and should be a realistic proposal for 3 years of research. It should include all of the following sections of an NIH research grant proposal. **Specific Aims:** This section should include a statement of the hypotheses to be tested and the goal or objectives of the proposal (1 page). **Background:** Concise presentation of pertinent literature in the chosen area of interest, setting the appropriate context of the proposed research plan (~5 pages). **Significance:** Brief summary of the broad significance of the research to the advancement of the relevant scientific field (1-2 paragraphs). **Preliminary Data:** This section should include a brief description of the types of
preliminary data the student feels are necessary to support the proposal (1-2 pages). Proof-of-principle documentation of the type of technical expertise necessary for the conduct of the proposed experiments are essential components of this section. **Research Plan:** Description of the methods and experiments that are proposed to achieve the research goals of the proposal. This section should place less emphasis on methodological details and more emphasis on anticipated outcomes and potential experimental pitfalls. (~8 pages). The experimental plan should accommodate unexpected findings and alternative strategies should be identified. **Literature Cited:** Full citations of all referenced literature should be included. The entire document, not including references, cannot exceed 15 single-spaced pages. (For margins and font requirements, see instructions for preparing an NIH grant application.) Students are encouraged to look at actual grant applications submitted by their advisor or other committee members to get a sense of what is included in an application.

While working on the written portion of the Exam, it is appropriate for students to discuss their ideas with their committee members as well as with other faculty and students. However, such interactions should be restricted to seeking information on the strengths and weaknesses of experimental approaches and not include a discussion of the feasibility of the experiments that the student anticipates proposing. Students may seek feedback from their committee on their Specific Aims within the first two weeks of the 5-week period. However, students are not allowed to receive assistance with written drafts of their Exam or guidance in the construction of the proposal.

**9.3.4. Oral Exam:** Approximately one week after the student submits the written “application” there will be an oral examination. The oral exam consists of a public presentation of the proposal (lasting ~ 45 minutes) followed by a private oral exam administered by the committee. At the oral examination students will be expected to defend their hypotheses and to address questions concerning all background information relevant to the topic, significance, and design of the experiments they proposed. It is expected that the entire oral exam (presentation and defense) will last 2-3 hours. At least one week before the presentation students are required to provide the title of their presentation and the time and place to one of the CNUP administrative offices for distribution.

**9.3.5. Evaluation:** At the end of the oral exam, the student will be excused from the room and the committee will evaluate the student’s performance. The student will then be immediately informed of the decision of the committee. The possible outcomes are pass, partial pass, or fail. In cases where the decision of the examining committee is not unanimous, a written report of the committee’s evaluation is referred to the Program Co-Directors for further consideration.

Students may receive a partial pass if they were deficient in some but not most of the areas on which they were examined. Significant problems associated with either the written or oral portion of the exam, or both, that are not so severe as to result in a failing score may result in a “partial pass”. If the committee decides on a partial pass, they must define those areas of the performance that were deficient, and provide specific criteria that must be met for the student to pass. For example, the committee might decide that experimental descriptions were poor throughout the written portion of the exam, and thus the student must submit revised descriptions of the proposed experiments. As another example, the committee might decide that some of the student’s oral answers were unacceptable, and thus the student must retake the oral portion of the exam. Whatever the reason for the partial pass, the committee must present the student with a detailed written description of what needs to be done to satisfactorily complete the exam. A copy of this written description must also be submitted by the committee to one of the CNUP Administrators (i.e., Patti Argenzio or Joan Blaney) so that a copy can be placed into the student’s file. Partial passes must
be remedied within 2 weeks of the initial oral exam, or the student will be considered to have failed the exam.

Students who fail the Comprehensive Exam will be allowed to take the exam a second time provided that they are not already on probation. The second exam must occur within 3 months of the initial exam. The exam must be passed before a student can apply for admission to candidacy for the Ph.D. Once this examination has been passed, the program notifies the appropriate Dean of Graduate Studies of that fact.

9.4. **Doctoral Dissertation**

The dissertation is the culmination of graduate study. The dissertation is intended to embody an extended original investigation of a problem of significance in the field of neuroscience. It must add to the general store of knowledge and to understanding in this field. It must also serve to demonstrate each of the competencies described at the outset of these guidelines.

**9.4.1. Dissertation Committee:** After successful completion of the Comprehensive Examination, the student and his/her research advisor propose a doctoral committee for approval by the Co-Directors of the Graduate Program. The committee consists of at least 5 faculty members. All committee members from the University must be members of the Graduate Faculty. At least 4 of them (including the research advisor) must be members of the CNUP graduate training faculty and at least 3 of these must be from the school in which the student is registered (i.e., School of Medicine or Faculty of Arts and Sciences). The committee must include at least one member of the University community who is not affiliated with the school of the research advisor. According to University Regulations, the research advisor must be a member of this committee; however, in the CNUP the research advisor retains his/her status as an advisor, both to the student and the committee, but does not chair the committee's meetings. The student should select one of the committee members from within the CNUP to serve as the chairperson.

For the final thesis defense, an outside examiner who is not a faculty member at the University of Pittsburgh or Carnegie Mellon University is added to the original 5-member committee. The outside examiner should be an expert in the area of the thesis, and should be selected by the student in consultation with the committee. Scheduling senior scientists can often be difficult, so it is best to make the selection as early as possible. The invitation is extended to the outside examiner by the student’s mentor. An invitation to give a seminar during the visit should also be extended. Once the outside examiner has accepted the invitation to participate on the committee, the mentor must inform the appropriate Program administrator who will make the travel arrangements and schedule the seminar.

The committee must be approved six months following successful completion of the comprehensive examination. The initial function of the committee will vary according to the needs of the student. Thus, advancing a mature proposal is not a prerequisite of seeking approval of a committee. In cases where the student is still collecting proof-of-principle data essential for documenting the feasibility of proposed experiments the committee should be assembled to provide council and critical feedback. Nevertheless, it is the responsibility of the student in consultation with the mentor to advance a proposed experimental plan to the committee, whose function at this stage is purely advisory. It is the further responsibility of the student in consultation with the mentor to respond to the advice of the committee in a timely manner that generates an approved
proposal. In cases where the preliminary database is more mature the committee functions to pass judgment on the feasibility and scope of the proposed experimental plan and to provide the necessary approval to advance the student to candidacy. In either event, the student must meet with an approved committee within six months of completing the comprehensive examination and work diligently with the committee to obtain approval for an experimental plan.

9.4.2. Dissertation Proposal and Overview Meeting: A dissertation proposal and an overview meeting are University requirements, but their function is not in any way analogous to an examination. Instead they provide an opportunity for students to organize their thoughts concerning the anticipated dissertation, to obtain advice concerning these thoughts, and ultimately to receive some assurance that the broad outlines of the research are acceptable to the faculty. Thus, the proposal should not be prepared and distributed when the research is nearing completion but rather at a much earlier stage.

Delaying submission of a dissertation proposal for committee approval beyond the end of December of the fourth year requires written permission from the Program Co-Directors. The student must understand that delaying the submission of a dissertation proposal past this date will necessarily extend the program beyond five years. Students may revise their original proposal or submit an entirely new proposal when subsequent events warrant it. However, such revisions must be reviewed and approved by their committee.

The format for the proposal is that of the research plan portion of an NRSA predoctoral fellowship application, the guidelines for which should be examined. The proposal submitted to the committee should be divided into the following sections: Specific Aims (1 page), Background and Significance (5 pages), Preliminary Studies (variable, but not to exceed 5 pages including figures), Research Plan (5 pages). The page numbers listed are guidelines for each section, but the entire document cannot exceed 15 pages.

Approximately two weeks after distribution of a mature research proposal, the student has an overview or prospectus meeting with the committee. At this meeting (or at a subsequent meeting if necessary) the student and committee reach an agreement on the dissertation topic and research plan. When agreement is reached, this is reported to the Associate Dean for Graduate Studies. A brief written summary of this meeting (and subsequent meetings) should be prepared by the committee’s chairperson and provided to a CNUP administrative office.

9.4.3. Admission to Candidacy for the Ph.D. Degree: After receiving approval of their dissertation proposal the student files an application for admission to candidacy. This application must be approved by the Co-Directors of the CNUP Graduate Program and the Associate Dean for Graduate Studies of the school in which the student’s mentor is appointed (i.e., FAS when the appointment is in the Department of Neuroscience, SOM when it is not). It is a University requirement that this be done at least eight months prior to the dissertation defense.

9.4.4. Data Meetings: Students should schedule periodic meetings with their committee to discuss the progress of experiments and to review new data. Specifically, students are strongly encouraged to meet with their committee at least twice each year, but, at a minimum, must meet with their committee at least once each year. Students are responsible for obtaining a brief report of each meeting from the committee chair and submitting it to a Graduate Administrator so that it can be added to their file.
9.4.5. **Dissertation**: The format for the written dissertation is as specified in the Style and Form Manual, which can be obtained from the Office of the Associate Dean for Graduate Studies. In addition to meeting these requirements, the student is encouraged to approximate the guidelines for the journal or journals in which the research results are to be published. The exceptions to this rule are (a) the introduction to the dissertation should include a more thorough review of the literature than usually is the case for a research article, (b) the methods section should include all necessary information concerning the conduct of the research, including procedural information already published, (c) the student may wish to include within the results section (or in an appendix) some data which, because they are confirmatory or incomplete, will not be published, and (d) there must be a general discussion section that is more broad than a discussion section associated with a single manuscript.

Manuscripts (including articles in any state of the publication process, e.g., published, submitted for publication, or completed but not yet submitted) authored or co-authored by the student and based on research conducted for the dissertation study may be included in the dissertation. To logically integrate this work into a dissertation, the student is required to write extensive introduction and discussion sections that give an overview of the objective or objectives of the research and draw general conclusions from the assembled data. If a manuscript is co-authored, the contribution of the student must be clearly delineated in the preface so that the committee can ascertain that the student's own work satisfies the requirements of a dissertation. The Style and Form Manual gives instructions on incorporating manuscripts into the dissertation.

A completed dissertation must be submitted to all committee members at least two weeks prior to the defense. The student can expect his/her advisor to read the dissertation prior to its submission, and submission of the dissertation implies that the student's advisor has approved the dissertation as ready for distribution to the committee.

It is important to note that effective 2004, the University mandates that all dissertations must be submitted electronically. Training in the rules guiding electronic submission is available through the University (http://www.pitt.edu/~graduate/etd/).

9.4.6. **Application for Graduation**: Candidates for graduation must file an official application for graduation in the Office of the Associate Dean for Graduate Studies in the first month of the term in which graduation is expected.

9.4.7. **Announcement of Thesis Defense**: One month before the final examination, the student provides the CNUP administrative office with the title of the dissertation and the time and place for its defense. This information is to be published in the *University Times* and *The Neurotransmitter*, and is sent to all appropriate departments of the University. It is assumed that all graduate students, postgraduate fellows, and faculty within the CNUP will attend the dissertation defense.

9.4.8. **Final Oral Examination**: The chairperson of the doctoral committee will oversee the examination. The student begins by making a public presentation of the research project. Approximately 45 minutes are allotted for this presentation. After a brief period for questions and discussion from the public, the candidate, the doctoral committee, and any faculty who wish to attend move to a conference room to complete the oral examination. The research advisor does not participate in this examination and must remain silent throughout the process. When the questioning is complete, the candidate leaves the room while the committee evaluates the dissertation and its defense. The research advisor (and other faculty members in attendance who are not members of the examining committee) may be asked to leave for a portion of the
committee’s deliberation. The committee selects one of the following options: pass, revision of the written document and/or additional oral questioning at a later time, or fail. If the committee requires revision of the written document and/or additional oral questioning, these requirements must be completed within a 3-month period. If the student fails the thesis defense, the student may take the exam again within 3 months. Failure to pass the thesis defense on a second occasion may result in the student being terminated from the program. At the conclusion of the defense, the student is provided with a verbal summary of the committee's deliberations. In addition, a report signed by all members of the doctoral committee, including the research advisor, is sent to the Associate Dean for Graduate Studies. When the decision of the committee is not unanimous, the matter is resolved by the Dean.

10. ACADEMIC AND RESEARCH INTEGRITY

10.1. Academic Integrity Policy
Students have the right to be treated by faculty in a fair and conscientious manner in accordance with the ethical standards generally recognized within the academic community (as well as those recognized within the profession). Students have the responsibility to be honest and to conduct themselves in an ethical manner while pursuing academic studies. Should a student be accused of a breach of academic integrity or have questions regarding faculty responsibilities, procedural safeguards including provisions of due process have been designed to protect student rights. These general procedures may be found in Guidelines on Academic Integrity: Student and Faculty Obligations and Hearing Procedures at www.pitt.edu/~provost/ai1.html. Individual schools have their own academic integrity policies, and students are encouraged to review these school-specific guidelines, as well.

10.2. Research Integrity Policy
The University of Pittsburgh seeks excellence in the discovery and dissemination of knowledge. Excellence in scholarship requires all members of the University community to adhere strictly to the highest standards of integrity with regard to research, instruction, and evaluation. Research misconduct carries potential for serious harm to the University community, to the research of science, and to society as a whole. The University's Research Integrity Policy is available online at www.bc.pitt.edu/policies/policy/11/11-01-01.html.
Calendar of Milestones and Deadlines

I. First Year
- Select research rotation and initiate research  
  Upon entering program
- Design a Two Year Program of Study  
  Upon entering program
- Submit Rotation Form  
  First week of Fall term
- Submit first Rotation Report  
  End of Fall term
- Evaluation Committee Reviews student progress  
  Beginning of Spring term
- Submit second Rotation Form  
  First week of Spring term
- Submit second Rotation Report  
  End of Spring term
- Submit Reprint Examination Form  
  May 1st
- Completion of Reprint Examination  
  May 31st
- Submit Progress Report  
  June 15th
- Annual Review by CNUP Evaluation Committee  
  July
- Select Dissertation Mentor & Advisory Committee  
  End of Summer Term

II. Second Year
- Complete Teaching Requirement (flexible)  
  Fall or Spring Term
- Submit Annual Progress Report  
  June 15th
- Second Year Research Evaluation Meeting with Advisory Committee  
  July 31st
- Establish Comprehensive Exam Committee  
  August 1st
- Annual Review by CNUP Evaluation Committee  
  July

III. Third Year
- Complete Comprehensive Exam  
  February 28th
- Form Dissertation Committee  
  Spring
- Submit Annual Progress Report  
  June 15th
- Submit Dissertation Proposal  
  August 31st
- File for Admission to Candidacy  
  Upon approval of proposal
- Annual Review by CNUP Evaluation Committee  
  July

IV. Subsequent Years
- Submit Annual Progress Report  
  June 15th of each year
- Annual Review by CNUP Evaluation Committee  
  July
- Data Meetings with Dissertation Committee  
  Two per year
- Application for Graduation  
  Term of graduation
- Announcement of Dissertation Defense  
  A month prior to defense