Graduate Program in Neuroscience (GPN)
Graduate Student Handbook

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This document pertains only to student matters and does not include employment-related information. For employment-related information, please refer to the applicable collective bargaining agreement or contact your local HR team.

I. Introduction

Most of the information that students enrolled in the University of Minnesota Graduate School will need is contained in the Graduate School web site. The information presented in this handbook is a supplement to the Graduate School web site. It also gives students specific information about their appointments to the Neuroscience Program, and to the operational and administrative aspects of the Graduate Program in Neuroscience. For more information about Graduate School requirements and procedures, see the Graduate School home page at www.grad.umn.edu .

The Graduate Program in Neuroscience (GPN) at the University of Minnesota is an interdisciplinary program; its goal is to promote graduate education and research in neuroscience, leading to the Doctor of Philosophy degree (Ph.D.). The GPN programs for both PhD students and MD/PhD students are covered by this handbook.

Forms, due dates, and details can be found on the Graduate School website at https://grad.umn.edu/admissions

II. History of the Graduate Program in Neuroscience

In the early 1980's, research in various areas of neuroscience was being actively carried out in several dozen laboratories scattered throughout the University of Minnesota. However, at the time, there was little interaction between faculty members except within single departments or specialized areas. At that time about a dozen faculty members from across the university began to seek ways to coordinate and expand interdisciplinary teaching and research in neuroscience. Neuroscience has always been an interdisciplinary science, drawing from physiology, psychiatry, pharmacology, animal behavior, economics, and biology, as well as computational and mathematical sciences. As of 2023, the GPN consists of a diverse program with over 135 faculty spanning 30 different departments. The GPN offers a PhD program in neuroscience that covers the complete range of research from subcellular to whole-organism behavior, and from fundamental research to clinical research, using a diversity of techniques.

Directors of Graduate Studies, Graduate Program in Neuroscience, 1987 to present:

- 1986 – 1987: Dr. Richard Poppele (Directed Neuroscience minor prior to the PhD Program)
- 1987 – 1989: Dr. Robert P. Elde, Department of Cell Biology & Neuroanatomy
- 1989 – 1992: Dr. Robert F. Miller, Department of Physiology
- 1992 – 1995: Dr. Alice A. Larson, Department of Veterinary PathoBiology
- 1995 – 1998: Dr. Timothy J. Ebner, Department of Neurosurgery
- 1998 – 1999: Dr. Esam El-Fakahany, Department of Psychiatry
- 1999 – 2002: Dr. John F. Soechting, Department of Neuroscience
- 2002 – 2005: Dr. William C. Engeland, Department of Surgery
- 2005 – 2008: Dr. Paul C. Letourneau, Department of Neuroscience
- 2008 – 2011: Dr. Virginia S. Seybold, Department of Neuroscience
- 2011 – 2014: Dr. James Ashe, Department of Neuroscience
- 2014 – 2019: Dr. A. David Redish, Department of Neuroscience
- 2019 – 2020: Dr. Linda McLoon, Department of Ophthalmology and Visual Neurosciences
- 2020 – 2024: Dr. Lucy Vulchanova, Department of Neuroscience
- 2024 – 2025: Dr. Harry Orr, Department of Laboratory Medicine and Pathology
- 2025 – Present: Dr. Rocio Gomez-Pastor, Department of Neuroscience

III. Requirements for a PhD degree from the University of Minnesota Graduate Program in Neuroscience

Receiving a PhD from the Graduate Program in Neuroscience requires that students make satisfactory progress each semester. Satisfactory progress is defined in the milestones available in the related documents.

A. Milestones to be expected in completion of the PhD degree

- Completion of the Itasca neurobiology course (NSC 5551).
- Completion of the required coursework in the first year.
- Completion of three rotations in the first year and the selection of an advisor(s).
- Completion of three semesters of our Career Skills course (NSC 8321).
- Passing the Written Preliminary Examination.
- Completion of a minimum of 4 elective credits.
- Completion of a minimum of 24 course credits.
- Completion of a minimum of 24 thesis credits (NSC 8888).
- Writing an oral thesis proposal.
- Passing the Oral Preliminary Examination.
- Experience in creating and delivering educational content (NSC 8411).
- Giving colloquia annually, starting in the third year for PhD students and second year for MD/PhD students.
- As first author, writing at least one manuscript submitted to a peer-reviewed journal.
- Writing a PhD thesis.
- Passing the final thesis defense.

B. Course Requirements for the Ph.D. degree

The following requirements and procedures are specified for typical students. Certain exceptions can be made with the consent of the advisor and Director of Graduate Studies. See: PhD Checklist for a complete description of the Graduate School requirements from initial registration to graduation.

1. Core Curriculum

PhD students will take the courses listed below, plus three required laboratory rotations in the first year. MD/PhD students complete their rotations prior to joining the program and will immediately start in their selected laboratory.

The coursework schedule is as follows:

Summer Session (Year 1)	
NSC 5551	Cell & Molecular Neurobiology Lab at Itasca (4 cr)
Fall Semester (Year 1)	
NSC 5461	Cellular & Molecular Neuroscience (3 cr)
NSC 5561	Systems Neuroscience (4 cr)
NSC 8334	Lab Neuroscience (1 cr)
NSC 8321	Career Skills-Understanding Responsibilities as a Neuroscientist (1 cr)

Spring Semester (Year 1)	
NSC 8111 or NSCI 5551	Quantitative Neuroscience (Experimental Design, Neurostatistics, and Coding (3 cr) Computational Neuroscience (Statistical Foundations of Systems Neuroscience) (3 cr)
NSC 8334	Lab Neuroscience (2 cr)
NSC 8321	Career Skills-Understanding Responsibilities as a Neuroscientist (1 cr)
See Below	Elective Coursework
Fall Semester (Year 2)	
See Below	Elective Coursework
NSC 8888	Thesis Credits
NSC 8411	Teaching in Neuroscience (Fall or Spring depending on availability)
Spring Semester (Year 2)	
NSC 8321	Career Skills-Understanding Responsibilities as a Neuroscientist (1 cr)
See Below	Elective Coursework
NSC 8888	Thesis Credits

Students may select 2-3 ELECTIVE courses from the course options below. As noted above, students must take at least 4 elective credits total. Auditing a course does not count. Alternative coursework can be used with the consent of the advisor and Director of Graduate Studies.

- NSC 8211: Developmental Neurobiology (3 credits)
- NSC 5661: Behavioral Neuroscience (2 credits)
- NSC 8111: Quantitative Neuroscience (3 credits)**
- NSC 5551: Computational Neuroscience (3 credits)**

****[whichever course was not selected in the Spring of Year 1]**

- NSC 5462: Neuroscience Principles of Drug Abuse (2 credits)
- NSC/PHCL 8221: Neurobiology of Pain and Analgesia (3 credits)
- NSCI 5501: Neurodegenerative Diseases, Mechanisms to Therapies (3 credits)
- NSCI 5505: Mind and Brain (4 credits)
- NSC/PHM/CMB 8481: Advanced Neuropharmaceutics (4 credits)
- MATH 5447: Theoretical Neuroscience (4 credits)
- CSCI 5521: Machine Learning Fundamentals (3 credits)
- CSCI 5523: Introduction to Data Mining (3 credits)
- CSCI 5525: Machine Learning: Analysis and Methods (3 credits)

Students are welcome to take additional elective classes by discussion with their advisor and the Director of Graduate Studies. If approved, please notify the program coordinator.

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2. *Supporting Program or Minor*

GPN students are not required to take a supporting program, nor are they required to complete a minor.

3. *Registration Requirement*

All graduate students are required to register for **6-14 credits** in the Graduate School every fall and spring term in order to maintain active status until they have passed the oral preliminary exam and completed 24 thesis credits (NSc 8888). To complete the required courses and thesis credits as efficiently as possible, the student should register for thesis credits (NSc 8888) during the 2nd year. Students should **NEVER** register for any credits during the summer without prior discussion with the program coordinator and your advisor. Registration during summer is not required to maintain health insurance coverage. **Students who fail to register annually will be considered to have withdrawn and will have to apply for readmission.**

Please be aware that FICA taxes will be taken from the paycheck during summer. If a student registers for any credits during the summer, student services fees will be charged. Furthermore, the GPN does not provide for any tuition or fee coverage during the Summer. Thus, the student or the student's advisor will be responsible for the full tuition and fees incurred during a summer term. [This directive is based on evidence that the amount of FICA tax for the summer period is usually less than the amount of the tuition and student service fees.]

4. *Post Thesis Credits*

Upon completion of 24 thesis credits and passing the oral prelim, the student should register for NSc 8444, which entitles the student to full time registration for only 1 credit. This typically occurs in the Spring of the 3rd year. Note: Once you register for this you should no longer register for any other courses. You will also need to complete an Application for Advanced Doctoral Status Form.

C. Laboratory Rotations

Laboratory rotations have two primary goals: (1) to provide students and faculty the opportunity to "test-run" the interaction that could lead to a long-term advisor/advisee relationship (see Section V below), and (2) to provide students a broad experience across the field of neuroscience in actual research settings. Rotation projects and result expectations vary depending on the ongoing work in the host lab.

A. Requirements

1. PhD students

All first-year Ph.D. students are required to complete a minimum of **three different 7-week rotations in three separate GPN-affiliated labs**. It is expected that students will complete one rotation in the Fall and two rotations in the Spring semester. It is also expected that students will have selected advisors at the end of the third rotation. However, if necessary, a fourth rotation can be completed during the Summer following the Spring semester. An optional 7-week rotation that occurs prior to the Itasca course may be available to students eligible for the Early Engagement Program. Under special circumstances, a Summer rotation (following the Spring semester of the first year or preceding the Itasca course) can be substituted for one of the Fall/Spring rotations with approval from the DGS.

2. MD/PhD students

M.D./Ph.D. students joining the GPN are required to complete a minimum of **two 5-8-week rotations in separate GPN-affiliated labs**. It is expected that students will complete one rotation in the summer before their M1 year and one or two in the summer between their M1 and M2 years. These rotations are discussed with the MSTP Director (in consultation with the DGS) prior to their onset. It is also expected that students will have selected a PhD advisor prior to the beginning of Itasca in the year they begin their first GPN year.

B. Considerations

Prior to a given rotation, a discussion between the student and the potential rotation mentor should take place. Rotation arrangements depend on faculty availability to serve as rotation mentors and the interests of the individual students. Students are also encouraged to discuss their choices for rotation mentors with the DGS prior to selecting each laboratory rotation. Students should make their selections well before (> 1 month) the beginning of the potential rotation to allow time for any arrangements that need to be made by the faculty. Managing coursework and research activities is critical, especially during the first two years of graduate training. Typically, when not in class or not studying class material, students are expected to be involved in their rotation projects. It is expected that a minimum of 20 hours per week will be devoted to rotation projects.

D. Teaching Requirements/Opportunities

Gaining experience in creating and delivering educational content is a program requirement:

- It is required that GPN students TA in a course as part of NSC 8411.
- Student preferences for a TA assignment will be considered but not guaranteed.
- Students will generally complete the TA requirement in their 2nd year.
- There may be opportunities for students to TA a second semester if they choose:
  a. Students can arrange a mentorship with one of the course faculty for credit for PFF8102. They will function as a TA in the course and will be mentored in giving 3 lectures (course requirement).
  b. Students seeking additional teaching exposure should work with the DGS.

E. Colloquium

Students are expected to present a half-hour colloquium as part of the Wednesday noon GPN colloquium series annually starting in their third year for PhD students and in their second year for MD/PhD students. The goal is for the students to report their research progress to the GPN community.

F. Seminars

Students are **expected** to attend the Wednesday noon Colloquia sponsored by the Neuroscience Graduate Program and the Friday noon seminars cosponsored by the Program and the Department. Seminars include professional development seminars as well as research presentations. Students are strongly encouraged to attend seminars in other areas/departments that may interest them.

G. The manuscript requirement

A PhD in neuroscience is a research degree. The primary means of communication of results to the scientific community is through peer-reviewed publication in scientific journals. Students are

expected to publish multiple papers in high-impact journals during their time as graduate students.

All students are required to write at least one paper that is submitted to a peer-reviewed journal. The student will be the primary author of the paper. It is preferred that this paper be published before graduation, but the GPN faculty recognize that publication can be a long process, particularly in high-impact journals. Therefore, the requirement is that at least one paper be submitted. The thesis committee (see Section VI below) is tasked with ensuring that the paper submitted is of good quality.

H. Examinations

There are three examinations required for the Ph.D. degree: the **Written Preliminary Examination**, the **Preliminary Oral Examination**, and the **Final Oral Examination with Thesis Defense**.

1. Written Preliminary Examination

Format: Students will write a total of two 2-page proposals in an NSF GRFP format (https://www.nsfgrfp.org/contact/about-grfp/). This is essentially an extended specific aims page. Briefly, students will have to provide an introduction to a topic, identify an outstanding question within this topic, define a hypothesis, design and justify a series of experiments (organized around 2-3 aims) to test this hypothesis, and identify how this work contributes to our understanding of the topic introduced at the beginning of the proposal. We expect that students will make use of the core course material, their notes, textbooks and internet resources such as Pubmed and Web of Science. Unlike traditional Specific Aims pages, we expect proposals to be well-referenced. A bibliography should be included with the proposal, but it will not count as part of the two pages. Note that, in the Fall semester, students complete a Specific Aims page not addressed here as part of Cellular & Molecular Neuroscience. This will not be part of the written preliminary exam but will help students to prepare for writing the two prelim proposals. We will also offer class sessions in the Career Skills course during the fall and spring semesters and provide concrete instructions and timelines for the two proposals.

Proposal 1 will be written in response to one of several prompts provided that encompass the content of the core courses students take during the first year. Proposal 1 will be written in an iterative process in which a student will be paired with a faculty writing coach. The final version of Proposal 1 will be due at the end of the semester (the first day of finals week) and will account for 35% of the total written prelim score. For Proposal 1, we encourage students to get feedback from their peers and colleagues. However, we expect unique proposals from each student and do not allow collaborative proposals to be submitted from teams or groups of students.

Proposal 2 will respond to a prompt from a different set used for Proposal 1. Students will be allowed to make use of the core course material, their notes, textbooks and internet resources such as Pubmed and Web of Science. Students will have a three-week period in which to write Proposal 2 after the end of the spring semester (after the scores and comments for the first proposals are returned). This will be done without a writing coach and without feedback from peers and colleagues. We expect each student to write a unique proposal independently. Students may choose, independently, to respond to the same prompt; however, students are not allowed to collaborate for the purposes of this exam. Proposal 2 will account for 65% of the total score.

Grading:
Students must average at least 70% to pass the preliminary exam (with Proposal 1 counting 35% and Proposal 2 counting 65%). Two faculty graders will assess each exam based on the rubric that will be provided to students in advance; the average will determine the final grade. Graders may or may not be writing coaches, but no coach will grade the work of the student they have coached. In the case of a large discrepancy (>10 percentage points), graders will communicate with each other and adjust their scores.

2. Oral Preliminary Examination

Briefly, the oral exam tests the following areas:

- **Oral communication:** clarity in articulating a conceptual framework for a hypothesis and responses to questions.

- **Thinking:** logical thinking and the ability to "think on one's feet" in defending the soundness of one's ideas: the rationale for experiments, interpretation of data, and significance of conclusions.

- **Knowledge:** understanding knowledge within an area chosen by the student (depth component) as well as the relevance of one's research to other areas of neuroscience and biology (breadth component). The scope of questioning in the oral exam is expected to include neuroscience and the minor or supporting field. The student may be asked to discuss other work that validates experimental approaches (may draw on other fields).

- **Quantitative Skills:** providing and explaining explicit statistical methods used in the student's written proposal.

2.1. Administrative steps to start at least a semester prior to the oral preliminary exam:

- Review all administrative steps and deadlines required by the Graduate School at https://z.umn.edu/graddegreesteps.
- Note that the GPAS planner (https://onestop.umn.edu/academics/gpas) needs to be submitted at least two months prior to the exam.
- **Selection of the Oral Prelim Committee:** Members are proposed by the student and advisor and approved by the DGS/ADGS before September 1st (beginning of 3rd year) or at least 10 weeks before your Oral Preliminary Exam. It is important to discuss the potential members with the DGS/ADGS prior to asking the individual faculty members to join the committee. The committee must consist of at least four members, including the advisor(s). The chair of the committee may not be the thesis advisor or co-advisor (if any). Other members must include a minimum of 2 members of the Graduate Program in Neuroscience and 1 member with a graduate faculty appointment in another graduate program. (See Section VI, below). Note: Role of the Oral Prelim Committee following the exam. In addition to serving as the examining committee for the oral prelim, it is expected that this committee will be an advising committee for the student during his/her/their dissertation research and will meet with the student at least twice/year. Each meeting will be scheduled by the program administrator. (See Section VI, Thesis Committees).
- Assign your committee online at http://z.umn.edu/examcommittees.
- Work with your committee to schedule a day and time for the preliminary oral examination.

- When you and your committee have agreed on a date and time, notify the Office of Graduate Student Services and Progress (GSSP) at https://z.umn.edu/docexamsched and the Graduate Program Coordinator.

2.2. Research proposal:

A research proposal in the form of an NIH NRSA F31/F30 will form the basis of the research discussion of the exam. The proposal should be aligned with the proposed thesis research. However, the proposal is not a binding document but rather an exercise in analytical thinking and problem-solving skills that will be tested in the oral examination. The research proposal describes experiments that will test a hypothesis. The hypothesis answers a question that is posed about the nervous system.

2.2.a. Research proposal format:

The written proposal must include the following sections of an F31/F30 NRSA fellowship application: Applicant's Background and Goals for Fellowship Training, Specific Aims, Research Strategy, Bibliography and References. For information about the F31/F30 NRSA fellowship visit (https://researchtraining.nih.gov/programs/fellowships). The parent announcement for F31 fellowships is:
https://grants.nih.gov/grants/guide/pa-files/PA-20-246.html. The page limits for NIH fellowship applications are summarized here: https://grants.nih.gov/grants/guide/pa-files/PA-20-246.html

Briefly, the **Research Strategy** section of the proposal has a *6-page limit* plus a *1-page* **Specific Aims** section introducing the research approach. **Bibliography and References** must be cited in the Research Strategy, but the reference list does not count in the 6-page limit.

If the Research Strategy plans include vertebrate animals, the NRSA **Vertebrate Animals** section should also be submitted along with the research proposal. Research proposals that do not include non-human vertebrate animals do not need to include this section. Research proposals that include humans do not need to include the human subjects' portion of the NRSA.

The written proposal must also include a training plan in the format appropriate for an NRSA (F31/F30) co-written by the advisor and student (as would be done for an NRSA application). The section dedicated to the **Applicant's Background and Goals for Fellowship Training** has a *6-page limit*. This training plan should be included in the discussion by the oral preliminary committee.

2.2.b. Research proposal planning:

The advisor is expected to be involved in discussing the research plan and editing at least one draft of the proposal as part of mentorship responsibilities. This is not a conflict of interest because passing the oral exam is not dependent on the written document but on the student's performance in defending a hypothesis and how it will be tested (i.e., rationale, experimental design, significance of the research plan).

NOTE: After preparing the research proposal, the student and advisor should consider submitting the proposal for NIH funding as a Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (F31) or Ruth L. Kirschstein Individual Predoctoral NRSA for MD/PhD and other Dual Degree Fellowships (F30).

2.2.c. Research proposal deadlines:

Research proposals for PhD students are due in the graduate program office by **4 p.m. on September 1st of the student's third year in the graduate program** (i.e., at the beginning of the student's third year). If September 1st falls on a weekend, proposals will be due by 4 p.m. of the first regular workday after this date.

For MD/PhD students, this research proposal is due by **4 p.m. January 2nd of their second year in the graduate program**. If January 2nd falls on a weekend, proposals are due by 4 p.m.

Extensions to this deadline can be given with approval of the DGS. In order to get an extension, the student should send an email to the DGS and CC their advisor. The advisor should then reply to the DGS with an "OK"/Approval. (This is important because extending the deadline can delay the student's transition to advanced doctoral status (See Section III.B.4, above), which can increase the cost of the student to the advisor).

2.3. Oral Presentation:

The oral preliminary exam generally includes a presentation of the research proposal followed or interspersed by questions that test the student's critical thinking, foundational knowledge, and quantitative skills. The committee will likely follow a line of inquiry until they reach the limits of the students' knowledge. Although this may feel intimidating, the intention is to guide and encourage the continued growth of the student through a stimulating discussion.

2.4. Exam preparation guidelines:

- Prepare a ~30 min presentation on the specific aims, significance, preliminary data, and experimental approach of your research proposal.
- Through reading textbook sections, primary literature and review articles, ensure that you have a comprehensive understanding of all concepts relevant to your research proposal.
- Develop a deep as possible understanding of all methods in your proposal, including why all the steps/components are important. Be prepared to discuss potential issues and alternative methods.
- Be familiar with all primary literature cited in your proposal.
- Identify which topics inside and outside the field of neuroscience you must master to do your best work on your proposed project and give you the nimbleness to pivot if your first approach or project idea fails.
- Familiarize yourself with the history of your field and project. What is the origin story of your project? What influences led your lab to study this topic? Are there any controversies surrounding the hypothesis or research topic? What has limited progress in this field in the past?
- Practice drawing key aspects of your proposal and answering potential questions at the board (for example, signaling pathways, neural circuit diagrams, sketching experimental design and experimental groups).
- Organize a few practice talks with different audiences.

2.5. Oral preliminary exam deadlines:

For PhD students, the exam must be **completed by December 1st of the student's third year** for the student to remain in good standing in the graduate program.

For MD/PhD students, the exam must be completed by **February 1st of the student's second year** for the student to remain in good standing in the graduate program.

If the normal completion target date falls on a weekend, the exam must be completed no later than the Friday before this date.

A student may petition the director of graduate studies for an extension of this deadline. The time and place of the exam are scheduled by the student, and the student must notify the graduate school. Three weeks are required between notifying the graduate school and the date of the exam so that the graduate school can process paperwork for the exam.

3. *Final Ph.D. Oral Examination*

The Ph.D. Thesis Final Committee Form should be filed with the Graduate School no later than one Semester after a student passes the preliminary oral examination and **at least** one term prior to the Final Oral Exam.
See: https://onestop.umn.edu/academics/graduate-student-services-and-progress-gssp

This committee does not have to be the same the Oral Preliminary Examination Committee. This form also specifies three members who will serve as reviewers of the thesis. Two reviewers, plus the advisor, are selected from the major field. The oral thesis examining committee must be approved by the DGS.

These members read the thesis draft and must sign a form indicating that it is acceptable for defense at least two weeks prior to the scheduled date of the final oral examination. It is up to the student to find an appropriate date and room, and to make sure sufficient time is allowed for the readers to examine the thesis. Graduate school rules specify that all members of the committee must have at least two weeks to read the thesis. This examination is primarily the thesis defense, although the questions and discussion may cover related areas as well. The first portion of all final oral examinations is a seminar given by the students covering their thesis research. This seminar must be publicly announced, and all interested faculty and students are invited. As is stated in the Graduate School Bulletin, the thesis seminar presentation is the part of the oral examination "to which the scholarly community is invited." Following a brief period of questions from the audience, the second portion of the examination will consist of additional questions to the candidate from the members of the examination committee. The second section of the examination is not open to the public.

Questions often arise about the role of the reviewers and the interpretation of the reviewers' actions prior to the oral examination. The reviewers determine whether the thesis is acceptable for defense. If the thesis is judged to be not acceptable for defense, specific reasons will be communicated to the student. If acceptable, the reader has judged that the thesis is ready for oral defense - and only that. The reviewer may have reservations and after the oral examination vote not to pass the candidate for the Ph.D. degree. These reasons should be communicated to the students. The Graduate School Bulletin provides further detailed information regarding the final oral exam.

Scheduling the oral PhD thesis defense

- Your dissertation must be submitted to your committee a minimum of **one month** before you can defend.
- The readers on your committee will then have **two weeks** to read the dissertation and approve it for defense. They need to file an electronic form with the Graduate School to acknowledge that the thesis is acceptable to defend.
- If your dissertation is approved for defense, you may schedule the defense any time at least **two weeks** after approval. The program coordinator must be made aware of the scheduled defense so that it can be announced to the community at least two weeks before your presentation.

Note: In practice, it is a good idea to know what date and time work for all of your committee. Scheduling the availability of four or more faculty can be difficult. **It is preferred for thesis defenses to occur during the Wednesday noon seminars, but this is not a requirement.**

I. Evaluation of Student's Progress

Normal progress toward the Ph.D. degree by full-time graduate students is based on fulfillment of the following general minimum requirements.

- Selection of the thesis problem and advisor by the end of the first year.
- Maintaining a minimum GPA of 3.0.
- Performing satisfactorily on the written preliminary exam.
- Passing the oral preliminary examination within one to one and one half years after successful completion of the written preliminary exam.
- Performing all teaching assignments and other program functions satisfactorily.
- Following the completion of the oral exam, students must meet bi-annually with their Graduate Committee. A committee report must be submitted to the program office following the annual meeting.
- Starting in the 3rd year (2nd year for those in the MD/PhD track) students must give a half hour oral presentation during the Wednesday GPN colloquium.

As a general rule, all requirements for the Ph.D. in Neuroscience should be completed in the range of 4 to 6 years. Although the Graduate School time limit for the Ph.D. degree is five years after the oral preliminary examination, the Neuroscience faculty view this limit as excessive. It is the joint responsibility of the student, the advisor and the Graduate Committee to set goals for completion of each individual's program and to periodically evaluate the rate of progress and achievement of these goals. It is of particular importance that the student assumes an active role in this process and seeks assistance from the advisor and Graduate Committee if unforeseen professional or personal circumstances appear to be substantially changing the rate of progress for attaining the Ph.D. degree.

Student progress is evaluated by annual meetings with the DGS and Associate DGS for all students, annually by the advisor for all students after their first year, and biannually by the thesis committee for all students after their Oral Preliminary Examination

Student Progress

Student progress is monitored and evaluated through biannual meetings with the DGS and Associate DGS (Fall: DGS; Spring: Associate DGS), annually by the advisor for all students after their first year, and biannually by the thesis committee for all students after their oral prelims.

Significant attention is paid to finding a thesis laboratory and quarterly monitoring of rotations during the first-year selection process for a PhD thesis advisor are performed. Input from each rotation is obtained from both student and faculty member. If conflicts arise between a trainee and an advisor at any time during their thesis studies, the role of the DGS is to mediate this conflict so that the outcome is positive to both mentee and mentor. Both students and faculty members should meet with the DGS, either independently or together. The Associate DGS will play this role between the DGS and her/his students. The goal of the DGS and Associate DGS is to find ways to ensure both student and advisor success. It is also suggested that the pair use the Office of Conflict Resolution to help mediate their problem if appropriate (https://ocr.umn.edu/). However, there are times when these processes are unable to resolve this conflict.

If there are issues related to scholarly progress, a Scholarly Progress Agreement will need to be completed in order to define the activities, timelines, and expected outcomes for remediating these issues. This agreement requires the approval of the student, advisor(s) and DGSs.

Changing PhD Thesis Advisor

It is possible to change PhD thesis advisor during the time course of one's graduate career. Such a change should be discussed with the DGS and Associate DGS and can be initiated by either the student or advisor. The goal is to develop a smooth transition plan for those involved, with minimal disruption to trainee and faculty members. The process for this transition will have three steps. First, the student will develop a list of potential new PhD thesis advisors in discussion with the DGS and Associate DGS. Second, the student will set up individual meetings with those individuals within one week of the decision to change advisors. Third, the student will do a six-week rotation with the potential new thesis advisor who was identified. The DGS and Associate DGS will each work with either the student or the faculty member in order to ensure that both interests are considered in this process. If this involves a student in the laboratory of either the DGS or Associate DGS, a neutral senior faculty mentor will be identified to fill one of these roles. Meetings will be held with each individual at the start of the rotation, halfway through the rotation, and at the end of the rotation. While it is assumed that this rotation will end up with a new thesis advisor, if this rotation does not result in the student joining the laboratory in which they rotated, one additional rotation will be allowed.

To be a PhD student in good standing after the beginning of Year 2 in the program a PhD thesis advisor is mandated. In the absence of an identified thesis advisor, the student is identified as not making satisfactory progress toward the degree. If not resolved within the timeframe and guidelines specified by the procedures outlined above, this will result in the termination of graduate status (see Termination of Graduate Status).

1. Stipend

In addition to the stipend, students receive full tuition and health benefits in the first year. Most students will be able to find a paid graduate assistant position, either as a research assistant or as a teaching assistant. Terms of these appointments will be shared with the graduate assistant prior to the start of each semester. GPN requires a minimum hourly rate for its students of $35.53 in Academic Year 2025-2026.

1. *Awards*

Some awards and fellowships may increase the stipend. Awards and fellowships that do not provide the full stipend must be supplemented to match the GPN-mandated stipend. In

accordance with NIH guidelines supplements of Kirschstein-NRSA awards and appointments to T32 institutional training grants can only be made from non- sponsored funds because the dollars cannot represent compensation for work on a grant related to the student's research or graduate training.

2. *Teaching Assistantships*

Every student must TA one class during their time as part of their graduate training.

Additional teaching assistantships may be available.

3. *Augmentation of the stipend*

The GPN has a policy of equity in the student stipend, and all students are provided the same stipend amount. The only exceptions are competitive fellowships based on merit. A faculty member may not augment the stipend of a student above the amount mandated by the GPN.

2. Termination of Graduate Student Status and/or Support

1. *Award of the Ph.D.*

The Ph.D. in Neuroscience is awarded upon successful defense of the doctoral dissertation and submission of the completed dissertation to the Graduate School. The date of degree is the end of the month in which all requirements are completed. Upon completion of all degree requirements, students should notify the program office of the effective date for termination of student status.

2. *Withdrawal from the program.*

Students who decide to withdraw from the program should give written notice to the Director of Graduate Studies as soon as the decision has been made. The notice should indicate the effective date of withdrawal. Withdrawing from the program without providing notice will be considered unsatisfactory performance.

3. *Termination of graduate status.*

The Graduate School and Neuroscience Program require that one warning be issued to the student regarding unsatisfactory performance (including instances in which a student withdraws without notice to the GPN) before that student is terminated. This warning will be in the form of an official letter, written by the DGS and approved by the steering committee. The warning must include the specific deficiencies and must outline a mechanism and time limit for correcting them. If those defined milestones are not met, then the DGS can terminate the student from the program.

Students must have a cumulative graduate GPA of 3.0 or higher after 3 semesters in order to remain in the program. Thereafter the cumulative GPA must be 3.0 or higher at the end of the spring semester of each year and prior to graduation. Satisfactory performance on all GPN milestones is required for continuation in the program.

4. *Academic misconduct*

Academic misconduct (such as cheating on closed book examinations) or violation of course guidelines (which describe the extent of collaboration that is acceptable in responding to take-home examinations, homework assignments or problem sets) is sufficient cause for dismissal from the program. Please refer to the Student Conduct Code for more information on this issue: https://policy.umn.edu/research/academicmisconduct.

5. *Guidelines of using Artificial Intelligence tools*

The GPN prohibits the use of artificial intelligence (AI) tools for completing program preliminary exams. For coursework assignments, specific guidelines regarding the use of AI will be provided in the instructions for each course and assignment. If AI is permitted for a particular assignment, it must be properly credited. This policy is in place to uphold academic integrity and ensure a fair and equitable learning environment for all students.

If there is suspicion of a violation of this policy, students will be given the opportunity to demonstrate their knowledge through alternative forms of assessment, such as supervised or proctored written exams and/or oral exams. If a student is unable to demonstrate their knowledge through these assessments, it will be considered a failure to meet program requirements, and the procedures outlined in the handbook for failing program requirements will be followed.

6. *Appeals Process*

A student who has been dismissed from a Medical School graduate program typically has the right to appeal the decision. Upon the student notifying program administration of the intent to appeal, the program will contact the Medical School Associate Dean for Graduate Education, create a timeline, and give the student direction for the appeals process. Whenever possible, appeals should happen after a dismissal decision is reached and has been communicated in writing to the student, and prior to a student's actual dismissal from the program. Students have the right to appeal a dismissal decision within 30 days of the dismissal, otherwise that right is forfeited.

The program will work with the Medical School Associate Dean for Graduate Education to form an appeal committee composed of two Directors of Graduate Studies (DGSs) from other programs within the Medical School, and the Medical School Associate Dean for Graduate Education. The student's advisor and the DGS of the program may not serve as committee members.

This committee will review relevant material and provide one of the two following decisions:

- Dismissal
- Continuation in the program with a new written plan. The appeal committee may also suggest actions for the new plan and determine if they are binding.

Reasons for reversing a dismissal may include but are not limited to: 1) found existence of a procedural error so substantial that it resulted in an improper dismissal; 2) evidence of bias on the committee that made the decision to dismiss; or 3) new evidence not considered by the program making the decision to dismiss.

The timeline for the appeal committee will be decided by the program in conjunction with the committee but should complete the appeal process within the semester the dismissal was appealed - unless there are extenuating circumstances.

The student will be directed to prepare an appeal letter for the committee that includes the following:

- Information about academic progress
- Actions taken to address requirements from the written plan they have signed with their advisor and DGS

- Resources used for academic progress support
- Future plan for academic success
- Any additional relevant information

The committee will be given the following materials to review:

- Letter to the committee from the DGS explaining the dismissal
- Letter to the committee from the student
- Original dismissal letter
- Original (and any subsequent) Scholarly Progress Agreement(s) signed by the student, Advisor and DGS
- Student's academic and grade history

Regardless of the decision made via the Medical School evaluation process, the student must be notified of the appeals decision in writing.

IV. Neuroscience Minor Requirements for Students Majoring in Other Fields

The program for an individual student is developed by consultation between the student and the DGS of the Graduate Program in Neuroscience. Students may declare minors at https://onestop.umn.edu/add-or-remove-graduate-minor. Students are required to take one of the following core courses and must take at total of at least 12 credits in NSC/NSCI coursework.

- Function/Structure: NSc 5561: Systems Neuroscience (4 credits)
  - NSc 5561 requires that you be registered concurrently in NSc 5461, orthat you have taken an undergraduate neuroscience course such as NSci3101.
- Cellular/Molecular: NSc 5461: Cellular & Molecular Neuroscience (3 credits)
  - NSc 5461 requires that you have taken undergraduate courses in cell biology and biochemistry. We recognize that students who lack the prerequisites may nevertheless wish to minor in Neuroscience. If you do not have undergraduate preparation, it is important that you consult with the DGS early in your graduate career to develop a plan of study.

V. Advisors

The graduate advisor will be the student's primary source of instruction and advice. Until a student selects a permanent advisor, the Director of Graduate Studies (DGS) will serve as interim advisor. To assist in the selection of a research problem and a research advisor, several activities have been arranged.

A. Laboratory Rotations

The exposure to new laboratory techniques and participation in active research projects during the rotation allow the opportunity to become acquainted with current research interests of individual faculty members. There will be 3 laboratory rotations, each lasting approximately 7 weeks. For a more complete description of laboratory rotations, see Section III.C above.

B. Faculty Curricula Vitae

A complete curricula vitae and bibliographies of a faculty member can be requested from the program office. Short descriptions of each faculty member's research can be found on the Neuroscience Program's website:

http://www.neuroscience.umn.edu/alphabetical-faculty-list

In addition, attending seminars, especially the weekly Neuroscience Colloquium, is a good way to become acquainted with faculty research interests.

C. Faculty mentoring

Faculty members are expected to provide mentorship to their students. The GPN steering committee is tasked with ensuring that faculty are providing good mentorship to the students. If training faculty are found to be not providing good mentorship for their PhD trainees, they may receive a letter from the GPN steering committee. This letter can have consequences that entail limitations of faculty rights with respect to the GPN, including but not limited to limitations in the faculty member's ability to take graduate students, the faculty member's ability to serve on GPN committees, or even termination from the GPN training faculty.

All training faculty are required to take mentorship training before being appointed to the GPN training faculty. Training faculty also are required to take this training before being renewed to the GPN faculty. This training is available at: https://www.ctsi.umn.edu/education-and-training/mentoring/mentor-training.

D. Selecting your Research Advisor

Students are expected to use the laboratory rotations as the major basis for choosing their research advisor. The actual selection will take place during Spring Semester, to allow students time to collect as much information as possible before making a decision. Students should begin training in their chosen labs at the beginning of the summer.

Factors to consider when choosing an advisor include: laboratory research interests, laboratory space and equipment, rapport with advisor, and funding availability - whether the advisor is able to offer a paid appointment in addition to serving as academic advisor, if that is something the student is looking for.

Once an advisor has been chosen, both the student and advisor must sign the Student-Advisor contract. The contract, or your intention to do a 4th rotation, should be submitted to the GPN by May 15th. For those doing a 4th rotation, your contract must be submitted by July 15th.

VI. Thesis committees / Graduate committee

Each graduate student will have a thesis committee that will provide additional advice, mentorship, and evaluation.

The formal Graduate Committee is initially appointed in conjunction with the filing of the Graduate Planning & Audit System (GPAS) **no later than one term** prior to your Preliminary Oral Exam. Students, in consultation with their advisors, should submit to the DGS a list of suggested faculty for these committees. Once informally approved, the student should submit the preliminary oral examination committee form (available through the GSSP office so that it can be officially approved. This committee will generally serve as the preliminary oral examination and final defense committees. In addition, this committee will participate in the student's annual research reviews, to monitor progress and provide advice about the thesis project.

A. Membership

The thesis committee must consist of at least four members, including the advisor(s). Although there is no maximum size of the committee, students are strongly discouraged from having more

than six members on their committee. Remember that you can always get advice from any member of the GPN, whether they are on your committee or not. At least three members (including the advisor(s)) must be from your major field (the GPN). At least one member must represent a field outside the major and have a graduate faculty appointment at the University of Minnesota. This outside field member can also have an appointment in neuroscience, but they cannot have a graduate appointment only in the Graduate Program in Neuroscience. It is also possible to include an external member that is not part of the University community with DGS approval. This external member must have appropriate expertise and relevant credentials. This external member may not serve any of the other roles on the committee (advisor, chair, within-university outside-graduate-program member).

One member of the committee must be delegated as the chair. The chair is also approved by the DGS/ADGS. The student's advisor may not serve as the thesis committee chair. The committee must be officially approved by the DGS and may not be completely composed of members of a single working group. The committee must contain a diversity of faculty members from across the GPN and can include faculty outside of the GPN if they are part of another graduate program.

B. Annual meetings

Students are encouraged to talk to their thesis committee members in an ongoing manner (and with the rest of the GPN!), but they are required to meet with their members twice annually.

Both annual meetings must consist of a group meeting, at which the thesis committee meets to evaluate the student's research progress (*Is the student making satisfactory research progress?*). No more than one member of the committee may be absent from the meeting. Both the advisor and the committee chair must be present. Members may phone or video- call in as necessary. This meeting should include a presentation by the student and a discussion of the student's recent research progress and research plans. It should include a portion during which the student leaves the room so that the committee can discuss the evaluation of the student's progress. The committee chair must fill out the thesis committee meeting form.

The process for the formal annual meeting with a thesis committee is as follows:
The committee meeting will entail the following process

1. The committee meets with the advisor alone (without the student) to discuss progress, issues, and complications that the advisor is concerned about.
2. The student presents a short progress report and answers questions from the committee (including the advisor). The committee provides insight, comments, suggestions, etc. to the student and advisor.
3. The committee meets with the student without the advisor present to determine if there are any issues, complications, etc.
4. The committee fills out the report form, and gives it to the student, who gives it to the program coordinator.

A post-oral-prelim student without a semi-annual progress report from a thesis committee is "not making satisfactory progress in the program".

VII. Individual development plans

The individual development plan (IDP) is an ongoing exercise designed to help guide thinking about long-term and short-term career plans, and to help bring them into alignment. An IDP is

about helping identify short-term plans to move oneself forward in one's career. Generally, one can think of an IDP in three parts:

- long-term goals (10 year), which should be flexible and not-restricting.
- intermediate goals (2-3 year), which should be the skill-sets and markers needed to achieve the long-term goals
- short-term goals (1 year), which should be measurable, action-oriented, and realistic.

A. Resources

The GPN provides a form for the IDP. Students are encouraged to use this form. There are many other resources to help you design your IDP. One is myidp.sciencecareers.org. Others include your colleagues and mentors.

B. Requirements

The IDP should be started in the second semester of the second year of the GPN program. Writing the initial forms will be incorporated into the Career Skills class. It should be revisited and updated annually before your annual meeting with the DGS and will serve a role in the annual meeting with the DGS. There will be a line on both the student and advisor progress report noting that the student and advisor have discussed this IDP.

All students are expected to create one and use it as a guide to their progress. Importantly, only the presence of an IDP will be used to evaluate students – the content of the IDP will not be used to evaluate students.

VIII. Fellowships

Students are encouraged to apply for competitive fellowships whenever possible, as fellowship awards can be valuable, not only monetarily, but also in terms of aiding a graduate student's career.

NIH Ruth L. Kirschstein NRSA fellowship. The written portion of the preliminary oral proposal / examination is in the NRSA format, students are encouraged to submit this proposal for funding.

It is strongly recommended that an NIH or NSF grant be prepared and submitted during the second year. This serves to focus the thesis plans and outline the introduction to the thesis and provides both students and advisors with an agreed upon list of objectives. It is also excellent practice for future grant-writing.

A list of deadlines and fellowships available at the University of Minnesota is available at http://www.grad.umn.edu/funding-tuition/fellowshipsandgrants.

IX. GPN Governance Committees

All GPN governance committees consist of a mix of faculty from the range of departments with membership in the GPN. All GPN governance committees have student representatives. Student representatives on the GPN governance committees are fully- fledged voting members of the committees and are expected to perform their duties with the same rights and responsibilities as the faculty members.

A. Steering Committee

The steering committee is the principal governing body of the Neuroscience Graduate Program. The composition of this committee includes the heads of the major committees, the course

directors for the core graduate courses, Principal Investigators of Neuroscience Training Grants and three members elected by the faculty of the Neuroscience Program. The terms of the three elected members shall be for three years. Presently, this membership is as follows:

1. Current Director of Graduate Studies (DGS)
2. Associate DGS
3. Past DGS
4. Chair of Curriculum Committee
5. Chair of Recruitment Committee
6. Chair of Admissions Committee
7. Chairs of Community Cultivation Committee
8. Course Director, Itasca
9. Course Director, System Neuroscience Course
10. Course Director, Cell and Molecular Neuroscience
11. Course Director, Developmental Biology
12. Course Director, Behavioral Neuroscience
13. Course Director, Quantitative Neuroscience
14. PIs on a GPN-Related Training grant
15. 3x Elected Representatives
16. 2x Student Representatives
17. 1x Postdoctoral Representative

The election of the DGS takes place one year prior to the expiration of the DGS term for 4 years. Upon election, the DGS-elect becomes a member of the steering committee. The Steering Committee meets on a regular basis, under the guidance of the DGS, to consider the evolving issues of program development. The Senior Administrator of the program serves as the secretary of the Steering Committee. The decisions of the Steering Committee are binding and do not require approval by the general faculty membership.

The Steering Committee has two major functions. One is to approve all rules and changes in regulations initiated by the Director of Graduate Studies. Approval by the Steering Committee is also required for course/curriculum changes as proposed by the curriculum committee. Approval of any initiative considered by the Steering Committee, including changes in the bylaws, requires a majority vote of the attending steering committee membership, provided that a 2/3 majority of the committee is in attendance at the time. If an insufficient number of members are in attendance for any deliberation, all absentee members can be polled by the secretary to determine their position on the issues at hand.

Members of the program committees will be appointed to 4 year terms which can be renewed once. Nominations for membership will be solicited whenever a vacancy arises. Criteria for appointment to a program committee include: service to the Graduate Program, distinction in research and graduate training, and the need for diversity in faculty representation.

B. Admissions Committee

This committee oversees the application and admissions process for students seeking to join the University of Minnesota Graduate Program in Neuroscience. These responsibilities include: i) the evaluation of applicants, ii) communication with applicants and prospective students, and iii) the matriculation of new students into the program. A major component of this process is to plan and execute the campus visits for each prospective student during the Interview weekend to

facilitate successful recruiting. These efforts are integrated with the Recruitment Committee and supported by the larger GPN community. Throughout the steps of the admissions process, the admissions committee is dedicated to ensuring fairness and to increasing diversity and equity within the Graduate Program in Neuroscience.

C. Recruitment Committee

This committee is responsible for recruiting an outstanding and diverse pool of applicants to the Graduate Program in Neuroscience, through activities including promotion via online media as well as interacting with prospective students at recruitment events. A cornerstone of this effort is dedication to increasing diversity and equity within the Graduate Program in Neuroscience through active engagement with, and recruitment of all underrepresented groups within STEM.

D. Awards and Fellowships Committee

This committee oversees the allocation of currently existing award prizes, travel funds or other symbols of recognition of merit bestowed by the Graduate Program in Neuroscience as a whole. This includes soliciting nominees, selecting winners from among the nominees, and arranging for the formal conferring of the awards, and exploring possibilities of funding awards with outside organizations.

E. Curriculum and Examination Committee

This committee oversees the educational composition of the Neuroscience Graduate Program. These functions include the programmatic features of graduate education in Neuroscience, which include courses, seminars, and other components of the educational process, such as lab rotations. Recommendations from the Curriculum Committee are passed to the Steering Committee, where final decisions on programmatic changes are made.

F. Seminar Committee

This committee is responsible for coordinating and organizing seminars to enhance the Graduate Program in Neuroscience. The functions of this committee will include a determination of invited guest speakers from outside the University, based on recommendations polled from the membership of the Graduate Faculty. In addition, seminars internal to the program (Neuroscience Colloquium) and special events, such as the Neuroscience Grass Lecture Series, will be organized by the Seminar Committee.

G. Community Engagement Committee

This committee is charged with overseeing and developing community outreach activities, such as those associated with Brain Awareness Week, exhibits at the State Fair, etc. The function of this committee is to enhance the visibility of neuroscience and the graduate program within the community, to foster a better understanding of neuroscience and to encourage K-12 students to consider higher education in science.

H. Community Cultivation Committee

This committee is responsible for coordinating and overseeing efforts to foster a strong sense of community and belonging in the Graduate Program in Neuroscience. These efforts include evaluation of program climate and structure, and coordination of initiatives with other GPN committees and affiliated departments, to make the GPN a supportive and welcoming environment where all individuals can thrive. This committee also serves as a resource for GPN students experiencing harassment or discrimination.

X. Courses

The list of courses offered by the Graduate Program in Neuroscience is available on the GPN website. Please see the website for a complete description of each. There are several relevant courses offered through other departments as well.

XI. Graduate School Procedures

A. Active student status

Students must register in the Graduate School the semester in which they are admitted or readmitted. To maintain active student status, students must register in the Graduate School every fall and spring Semester.

B. Commencement

Graduate School commencement ceremonies are held in fall and spring semesters. Students who wish to participate in commencement should contact the Graduate School one Semester in advance of the ceremony.

C. Required G.S. Forms

Forms, due dates, and details can be found on the Graduate School website at https://grad.umn.edu/

XII. Administrative issues

A. General policy statements

The Graduate Program in Neuroscience is a part of the Academic Health Center at the University of Minnesota, and, as such, is covered by all of the standard policies applicable to those institutions.

Please see http://policy.umn.edu/ for the latest official university policies. A partial list of the appropriate policies are below:

- Policy on academic and research misconduct: https://policy.umn.edu/research/academicmisconduct
- Student conduct code http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf
- Equal opportunity and disability accommodations https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_equity_diversity_equal_opportunity_and_affirmative_action.pdf

B. Accident reporting

All injuries should be treated without delay and must be reported to both the department in which the student is currently working and the victim's immediate supervisor as soon as possible. The full policy is available at: https://policy.umn.edu/hr/workerscomp

C. U-Card, x500 account, etc.

All GPN students will have an x500 email account assigned to them as per university policy. All students are required to get a U-Card for photo ID as per university policy https://policy.umn.edu/operations/ucard

D. Copying

First-year students may request use of the copy machine in 6-145 Jackson for GPN related activities. After a permanent advisor has been chosen, students should discuss the procedure to be used in the advisor's department.

E. Mail

First-year students have a mailbox in the Neuroscience Department mailroom (6-145 Jackson Hall). Generally, after a permanent advisor has been chosen, mail is delivered to mailboxes for the advisor's laboratory. Mail is delivered once daily. There is a U.S. Post Office in Coffman Union.

F. Paychecks

First Year Student stipends are handled through standard university payment practices. Students are on biweekly stipend payment cycle as per university standards and will receive deposits every two weeks (26 checks per year).

A student's funding type while service as a graduate assistant will also have its own specific policies: https://policy.umn.edu/hr/gradstudentemployment and https://policy.umn.edu/education/fellowships

G. Statement on Harassment

It is very important to remember that the Graduate Program in Neuroscience is a workplace, and must be a place conducive to work for everyone. Harassment of any sort will not be tolerated.

1. Specific statement on sexual harassment

Sexual harassment is against the law. Sexual harassment subverts the mission of the University and threatens the careers of students, faculty, and staff. It will not be tolerated in the Graduate Programs of the Medical School.

The 2017 Board of Regents policy defines sexual harassment as "unwelcome conduct of a sexual nature under **either** of the following conditions: (a) When it is stated or implied that an individual needs to submit to, or participate in, conduct of a sexual nature in order to maintain their employment or educational standing or advance in their employment or education (quid pro quo sexual harassment). (b) When the conduct: (1) is severe, persistent or pervasive; and (2) unreasonably interferes with an individual's employment or educational performance or creates a work or educational environment that the individual finds, and a reasonable person would find, to be intimidating, hostile or offensive (hostile environment sexual harassment)."

All University members are prohibited from engaging in, or assisting or abetting another's engagement in, sexual assault, sexual harassment, relationship violence, stalking, and related retaliation (collectively "prohibited conduct").

Information and guidance regarding sexual harassment are available from the Office of Equal Opportunity and Affirmative Action, which is also the office that receives complaints of sexual harassment. See the current University Policy for more details.

As of the writing of this current document (1 August 2024), The Minneapolis St. Paul Campus Title IX officer is Tina Marisam, and her contact information is: (612) 624-9547, marisam@umn.edu. Information about resources for personal support that are available to

individuals who believe they have experienced prohibited conduct, as well as answers to questions including those listed below can be found at https://policy.umn.edu/hr/sexharassassault#faqlink.

- **Who can I call for help? Are there any confidential resources available to me?**
- **Can the University provide me with any accommodations or protective measures?**
- **What about my housing situation and my classes?**
- **Do I have to initiate a University investigation if I have experienced prohibited conduct?**
- **Is there a time limit for initiating an investigation?**
- **Is it possible for a complainant to remain anonymous during an investigation?**
- **Who can explain the investigation process to me?**
- **Are there resources on campus that can support me through the investigation process?**

H. Disability resources and student accommodations

The GPN provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_ AA.pdf

As such, the GPN views disability as an important aspect of diversity and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

The general process of accommodating disabilities in the classroom is:

- The student approaches the DRC to be assessed.
- The DRC makes a decision as to whether or not to provide an accommodation letter, which will detail their recommended accommodations.
- The student provides the accommodation letter to the professor teaching the class or serving in another capacity for which an accommodation is necessary.
- If the accommodation is difficult or incompatible with how the class or work system is structured, then the professor will negotiate the accommodation with the DRC. Negotiations should be made with the DRC, not the student.
- Students are never required to disclose a disability to a professor, nor is there any expectation that they will do so. All disability accommodation decisions are negotiated using the DRC as an intermediary. If a student has, or thinks they have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, they should first contact the DRC office (612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.

Students with long-term disabilities should register with the DRC who will make the decision of whether or not to provide an accommodation letter. Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.

I. Conflicts

We do our best to minimize conflicts between students, between students and faculty, or between

faculty. There are many available resources for a student to discuss such conflicts, including:

- One's advisor.
- The DGS/ADGS.

Confidential university-wide support for conflict resolution can be found at

- Student Conflict Resolution Center www.sos.umn.edu x4-7272
- University Counseling & Consulting Services https://counseling.umn.edu/ x4-3323

Confidential mental health support can be found at Boynton
http://www.bhs.umn.edu/east-bank-clinic/mental-health-services.htm x5-3222

J. Leave of Absence

Students wishing for a leave of absence fromtheir academic programmust contact their thesis advisor and the Director of Graduate Studies to discuss options according to university policy. https://policy.umn.edu/education/gradstudentleave
After notification of the DGS, you must file a Leave of Absence Request with the Graduate School. Students who do not obtain a college-approved leave of absence prior to interrupting enrollment may be terminated from the program. Active status in the program requires students to enroll year-round. The Leave of Absence Request document should include clear criteria for reinstatement.

Students with a college-approved leave of absence are eligible for reinstatement if they file a Leave of Absence Reinstatement form with the Graduate School prior to the term in which they intend to enroll. The student must re-enroll for the term immediately following the expired leave.

K. Graduate Assistant Medical Insurance and Dental Coverage

First year students (and students holding paid fellowships, or employed as research assistants or teaching assistants)who choose to receive the health coverage provided by the University will be covered by the Graduate Assistant Insurance Plan (currently under a Blue Cross Blue Shield policy). This coverage is administered through the Graduate Assistant Insurance Office (GAIO) at 625-6936. Coverage for dependents is also available. A word of warning: after students graduate, they must contact the GAIO to cancel their insurance. Otherwise the office may continue to bill for coverage after the graduation date.

Details are available at http://www.shb.umn.edu/twincities/graduate- assistants/gahp/graduate-assistant-health-plan.htm

Boynton Health Service Dental Clinic provides dental care for students on the Graduate Assistant Health Benefit Plan. Please identify yourself as a Graduate Assistant Health Benefit Plan member and have your student ID number ready when making appointments for yourself or your dependents to assure that you receive appropriate discounts on services.

Details are available at http://www.shb.umn.edu/twincities/graduate- assistants/gahp/graduate-assistant-dental-benefits.htm

Individual Development Plan (IDP)

Graduate Program in Neuroscience (GPN)

About the IDP

The individual development plan (IDP) is an ongoing exercise designed to help guide your thinking about short- term and long-term career plans and to help bring them into alignment as your progress through your training.

The IDP needs to be used in the second semester of the second year of the GPN program. This will be introduced during the Career Skills class. It should be revisited updated biannually before your annual meeting with the DGS in the Summer/Fall and your annual meeting with the Associate DGS in the Winter. It is very important that this is living/working document. Discuss this with your PhD thesis mentor before your biannual DGS/ADGS meetings. **A signed IDP form signed by both you and your thesis advisor(s) must be handed in to the DGS/ADGS at your biannual meetings.**

In addition, prior to approval of your Orals Preliminary Examination Committee by the Associate Dean of Graduate Education, you must meet with the Director of Professional Development Director in the Office of Professional Development in the Medical School.

PART I: info

Trainee:_____

Advisor(s) and Department(s): _____

Starting Year: _____

Current Year: _____

Oral Examination Committee Chair (Department): _____

Oral Examination Committee Members (Department):

_____

_____

_____

Thesis Committee Chair (Department): _____

Thesis Committee Members (Department): (must be approved by the DGS)

_____

_____

_____

Dates of Your Thesis Committee Meetings (Must meet bi-annually):

PART II: Progress this year

Description of your Thesis Research (one paragraph):

Summarize your research progress over the past year.

Describe:

- major activities;
- specific objectives;
- significant results, including major findings, developments, or conclusions (positive and negative),
- key outcomes or other achievements; Include any meeting abstracts or publications submitted, in press, or published.
- goals not met:

PART III: Intermediate and Long Term Goal Setting

The goal is to keep the long-term goals for your future career in mind as you progress through your PhD thesis research.

Intermediate goals

Long-term goals

Part IV: Short-term goal setting

GOAL SETTING: In a research career, you will find yourself needing skills in a variety of areas. While the specific instantiation of these areas may differ between careers, you will find that these skillsets translate between careers.

RESEARCH GOALS

- Am I managing my time for experiments, reading, and writing?
- Can I interpret my results and assimilate new knowledge to formulate good scientific questions?
- Am I thinking creatively, troubleshooting my own experiments, and developing my independence?
- Am I willing to learn new techniques and to take risks?
- Do I have a clear plan for completing my PhD thesis research?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

PUBLISHING AND WRITTEN COMMUNICATION GOALS

Written communication is a key to the scientific process.

- Have I developed a focused set of goals that will lead to publication of a paper?
- How far away am I from my next publication?
- How do I efficiently translate results into publication quality data?
- Do I have a workable pipeline to proceed from results to publication?
- How can I improve my writing?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

CONFERENCES AND ORAL COMMUNICATIONGOALS

Oral communication (by poster or presentation) is fundamentally different from written communication.

- When will I next present my work and/or attend a scientific meeting?
- How well did my last presentation go?
- Am I presenting the right level of complexity to the right audiences?
- How can I improve my presentation skills?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

TEACHING GOALS

The ability to communicate new ideas to students or mentees is an important skillset.

- How was my experience when I served as a course TA?
- What mentorship opportunities are available? How can I increase my mentorship skills? Include peers and undergraduate trainees.
- What course(s) development or a syllabus have I written or participated in designing?
- What outreach and teaching beyond the University of Minnesota have I done?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

FUNDING GOALS

Writing grant proposals is fundamentally different from writing publications – proposals are about the future, while publications are about the past.

- What grants will I apply for, and when are the deadlines?
- What feedback have I received on my grant writing skills?
- How will I improve my grant writing skills?
- Can I write an original and competitive research proposal?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

NETWORKING AND LEADERSHIP

Any scientific career will take you into a community that requires the ability to interact with co-workers and to provide leadership to those co-workers.

- What organization and leadership roles have I taken on?
- Are there organizational opportunities that I can use to learn networking and leadership skills?
- What support relationships have I formed with mentors, peers, and administrative staff?
- How can I better access opportunities to network with individuals who will be a good fit for my future career aspirations?
- Who are key contacts, in addition to my thesis advisor, for helping me think through ideas?

Goal(s)	
How will you measure your progress?	
What actions will you take toward achieving your goal(s)?	
Which of your strengths will help your achieve your goal(s)?	
What roadblocks might you face? What resources are needed to overcome these barriers?	
Target date(s) for completion	

GRADUATE PROGRAM IN NEUROSCIENCE **UNIVERSITY OF MINNESOTA**
Ph.D. Program **Committee Meeting Report**

Student Name: _____

Advisor: _____

Meeting Date: _____

Estimated completion date: _____

ACADEMIC PROGRESS

VOTE: Overall progress (as voted on by committee, circle one):

Outstanding **Satisfactory** **Not satisfactory**

Committee Signatures		**Progress in the last year (initial one)**		
Role	Name	**Outstanding**	**Satisfactory**	**Not satisfactory**
Chair				
Advisor				
Committee member				
Committee member				
Committee member				

RECOMMENDATIONS:

STUDENT STATEMENT

I have met with my committee and understand the recommendations suggested. I agree that the above completion date is a reasonable estimate.

_____ _____
Signature Date

FACULTY STANDARDS OF CONDUCT

The Graduate Faculty of the Medical School hold themselves and all members of their community to the following

Standards of Conduct as (adopted by the University Board of Regents 12 July 1996, amended 8 Dec 2006).

Act Ethically and with Integrity.

Ethical conduct is a fundamental expectation for every community member. In practicing and modeling ethical conduct, community members are expected to:

- act according to the highest ethical and professional standards of conduct;
- be personally accountable for individual actions;
- fulfill obligations owed to students, advisees, and colleagues;
- conscientiously meet University responsibilities; and
- communicate ethical standards of conduct through instruction and example.

Be Fair and Respectful to Others.

The University is committed to tolerance, diversity, and respect for differences. When dealing with others, community members are expected to:

- be respectful, fair, and civil;
- speak candidly and truthfully;
- avoid all forms of harassment, illegal discrimination, threats, or violence;
- provide equal access to programs, facilities, and employment; and
- promote conflict resolution.

Manage Responsibly.

The University entrusts community members who supervise or instruct employees or students with significant responsibility. Managers, supervisors, instructors, and advisors are expected to:

- ensure access to and delivery of proper training and guidance on applicable workplace and educational rules, policies, and procedures, including this Code;
- ensure compliance with applicable laws, policies, and workplace rules;
- review performance conscientiously and impartially;
- foster intellectual growth and professional development; and
- promote a healthy, innovative, and productive atmosphere that encourages dialogue and is responsive to concerns.

Protect and Preserve University Resources.

The University is dedicated to responsible stewardship. Community members are expected to:

- use University property, equipment, finances, materials, electronic and other systems, and other resources only for legitimate University purposes;
- prevent waste and abuse;
- promote efficient operations;
- follow sound financial practices, including accurate financial reporting, processes to protect assets, and responsible fiscal management and internal controls; and
- engage in appropriate accounting and monitoring.

Promote a Culture of Compliance.

The University is committed to meeting legal requirements and to fostering a culture of ethics and compliance.

a) Expectations

Community members are expected to:

- learn and follow the laws, regulations, contracts, and University policies and procedures applicable to University activities;

- be proactive to prevent and detect any compliance violations;
- report suspected violations to supervisors or other University officials; and
- ensure that reports of violations within their area of responsibility are properly resolved, including disclosure to sponsors or other state or federal authorities as appropriate.

b) Prohibition

Community members are prohibited from retaliating against another community member for reporting a suspected compliance violation.

Preserve Academic Freedom and Meet Academic Responsibilities.
Academic freedom is essential to achieving the University's mission. Community members are expected to:

- promote academic freedom, including the freedom to discuss all relevant matters in the classroom, to explore all avenues of scholarship, research, and creative expression, and to speak or write as a public citizen without institutional restraint or discipline; and
- meet academic responsibilities, which means to seek and state the truth; to develop and maintain scholarly competence; to foster and defend intellectual honesty and freedom of inquiry and instruction; to respect those with differing views; to submit knowledge and claims to peer review; to work together to foster education of students; and to acknowledge when an individual is not speaking for the institution

Ethically Conduct Teaching and Research.
University researchers have an ethical obligation to the University and to the larger global community as they seek knowledge and understanding.
Community members are expected to:

- propose, conduct, and report research with integrity and honesty;
- protect people and humanely treat animals involved in research or teaching;
- learn, follow, and demonstrate accountability for meeting the requirements of sponsors, regulatory bodies, and other applicable entities;
- faithfully transmit research findings;
- protect rights to individual and University intellectual property;
- ensure originality of work, provide credit for the ideas of others upon which their work is built, and be responsible for the accuracy and fairness of information published; and
- fairly assign authorship credit on the basis of an appropriate array of significant intellectual contributions, including: conception, design, and performance; analysis and interpretation; and manuscript preparation and critical editing for intellectual content

Avoid Conflicts of Interest and Commitment.
Community members have an obligation to be objective and impartial in making decisions on behalf of the University. To ensure this objectivity, community members are expected to:

- avoid actual individual or institutional conflicts of interest;
- disclose potential conflicts of interest and adhere to any management plans created to eliminate any conflicts of interest; and
- ensure personal relationships do not interfere with objective judgment in decisions affecting University employment or the academic progress of a community member.

Carefully Manage Public, Private, and Confidential Information.
Community members are the creators and custodians of many types of information. The public right to access and the individual's right to privacy are both governed by laws and University policies. To meet these responsibilities, community members are expected to:

•learn and follow laws and University policies and agreements regarding access, use, protection, disclosure, retention, and disposal of public, private, and confidential information;
•follow document preservation and retention guidelines; and
•maintain data security using electronic and physical safeguards.

Promote Health and Safety in the Workplace.
Community members have a shared responsibility to ensure a safe, secure, and healthy environment for all University students, faculty, staff, volunteers, and visitors. Community members are expected to:

- follow safe workplace practices, including participating in applicable education sessions, using appropriate personal safety equipment, and reporting accidents, injuries, and unsafe situations;
- maintain security, including securing University assets and facilities;
- report suspicious activities; and
- protect the environment, including carefully handling hazardous waste and other potentially harmful agents, materials, or conditions.

DISCIPLINARY OFFENSES

A member of our Graduate Faculty community found to have committed any of the following acts of misconduct is subject to appropriate disciplinary action under this policy:

Scholastic Dishonesty. Scholastic dishonesty would include, but is not limited to the following behaviors: fabrication, falsification, plagiarism, fraud, improper grading, favoritism, discrimination, intellectual dishonesty, sabotage, retaliation, etc.

Harm to Person. Our education, research, and training missions cannot be achieved unless we create and maintain a community that '*is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community'* (Board of Regents Policy "Student Conduct Code" Adopted 10 July 1970, most recently amended 13 October 2017 http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf)

Consequently, members of our Graduate Faculty will refrain from actions that endanger or threatens to endanger the physical and/or mental health, safety, or welfare of any member of our community. Examples of such conduct would include, but is not limited to: intimidation, threats, bullying, unduly harsh criticism, offensive language, abuse of power, assaultive behavior, etc.

Sexual Misconduct represents a specific type of harm to person that is defined in University Administrative Policy: Sexual Harassment, Sexual Assault, Stalking and Relationship Violence and the related administrative policy (https://policy.umn.edu/hr/sexharassassault).

Neglect. The Board of Regents Code of Conduct explicitly highlights the duty all members of the University community have to 'manage responsibly', however in agreeing to advise a doctoral or masters student, or post- doctoral trainee, members of the graduate faculty accept the additional responsibility to foster the academic, intellectual and professional development of their trainees. Failure to discharge this responsibility has the potential to y impact adversely the professional, intellectual, and personal development of these individuals, and is impermissible. Specific examples of failure in this area would include, but not be limited to the following:

failure to provide accurate, timely and appropriate feedback on trainee performance, failure to provide resources required for trainee success (i.e. financial support, access to required instrumentation, software, etc.), failure to provide required progress reports, to sign official UMN forms, failure to review, in a timely manner, manuscripts for publication, thesis, or other required academic milestone documents.

SECTION V. SANCTIONS.
Graduate faculty found responsible for disciplinary offenses under this policy are subject to sanctions. Factors to consider in determining appropriate sanctions include: the nature of the offense, the severity of the offense, the culpability of the student or student group, the impact on other students or members of the University community, and the opportunity for student development.

Warning. A Graduate Faculty member found to have violated this policy may receive a written notice of V*iolation of Policy*. Such a notice is delivered to the faculty member as well as the Director of Graduate Study of all Medical School Graduate Programs of which this individual is a member. Typically, a Graduate Faculty member will be advised on steps necessary to resolve a policy violation, and/or to avoid further violations of policy.

Probation. A Graduate Faculty member found to have violated this policy may receive the sanction of *Probation* (imposed for a defined period of time). Probation notice will be accompanied by a description of the probability of additional, more severe sanction if the individual commits further violations of this policy during the period of the probation. Graduate Faculty members placed on probation may be required temporarily to relinquish privileges including the right to advise students and will likely be required to take action to resolve a specific policy violation or violations.

Suspension of/loss of Graduate Faculty Membership. Graduate Faculty members found to have violated this policy may be removed (temporarily or permanently) from the ranks of all Medical School Graduate Programs of which they are members. Graduate Faculty members may further be required to take action to resolve a specific policy violation(s).

HEARING OF APPEALS OF SANCTION
Hearing Process: Allegations that a Graduate Faculty member has violated this policy will be forwarded to the Associate Dean for Graduate Education, and if appropriate, to the Basic Science Graduate Council that would be charged with making a finding, based on a preponderance of evidence. The Graduate Faculty Member will be able to review any information that has been presented to the Associate Dean for Graduate Education (ADGE) and will be afforded the opportunity to provide any additional information that they deem relevant.

The process will progress as follows:
a) The Graduate Faculty member is informed of the allegation of violation of policy and provided access to relevant information related to this allegation.
b) The Graduate Faculty member is invited to an informal meeting to discuss the process and to share relevant information with the ADGE. Graduate Faculty members may request the Basic Science Graduate Council selects an individual from among their rank to serve in place of the ADGE, if they feel that individual would not be able to impartially consider their case. In such an instance, the selection of a replacement by the Basic Science Graduate Council would not be subject to further appeal.
c) The ADGE (or their substitute) will offer the Graduate Faculty member an informal resolution, discussing the relevant policy or policies alleged to have been violated, and an outline of

sanctions that could potentially be imposed.

d) In the event this informal resolution is not acceptable to the Graduate Faculty member, that individual may request for a formal hearing in which the Basic Science Graduate Council will determine responsibility and potential sanctions. (The ADGE will not participate in this process if they were party to the informal resolution process outlined above. In this case, the Council will elect a chair who for the purposes of this hearing will replace the ADGE as presiding officer.)
e) If the Graduate Faculty Member does not accept the formal resolution offered by the Basic Science Graduate Council, a request for an appeal can be made to the Vice Provost and Dean for Graduate Education.

Graduate Program in Neuroscience (GPN)
PhD Milestones

NEVER register for any credits during the summer without prior discussion with the program coordinator. Registration during summer is not required to maintain health insurance coverage.

Students are expected to graduate sometime during year 5.

A. Year 1

1. *General steps*

- Itasca neurobiology course
- Core coursework
- Rotations
- Written preliminary exam

2. *Satisfactory progress*

- Finding an advisor with whom to do your thesis project.
- Maintaining a 3.0 grade point average in all core classes.
- Performing satisfactorily on the written preliminary exam.

3. *Register*

Summer session

- NSc 5551: Cell & Molecular Neurobiology Lab at Itasca (4 cr)

Fall semester

- Nsc 5461: Cellular and Molecular Neuroscience (3 cr)
- Nsc 5561: Systems Neuroscience (4 cr)
- Nsc 8334: Lab Neuroscience (1 cr)
- Nsc 8321: Career Skills (1 cr)

Spring semester

- Nsc 8111: Quantitative Neuroscience (3 cr) or Nsci 5551 : Computational Neuroscience (3 cr)
- Nsc 8334: Lab Neuroscience (2 cr)
- Nsc 8321: Career Skills (1 cr)
- Elective Coursework

4. *Deadlines and specific steps*

- File annual report form and meet with DGS/ADGS twice a year.

B. Year 2

1. General steps

- Complete coursework inside the GPN.
- Begin taking thesis credits.
- Complete TA requirement.
- Begin thesis research.
- Present a poster at the annual retreat.
- Begin writing Individual Development Plan (IDP)

2. Satisfactory progress

- Maintaining a 3.0 grade point average in all classes.
- Submit written preliminary exam rewrites, if needed.
- Making adequate research progress.

3. Register

Fall semester (registration should be 14 Credits Total)

- Elective Coursework
- Nsc 8888: Thesis Credits (up to 14 Credits, depending on elective coursework)

Spring semester (registration should be 14 Credits Total)

- Nsc 8321: (Career Skills) (1 cr)
- Elective Coursework
- Nsc 8888: Thesis Credits (up to 13 Credits, depending on elective coursework)

4. Deadlines and specific steps

- File annual report form and meet with DGS/ADGS twice a year.

C. Year 3

1. General steps

- Complete thesis credit requirement.
- Make progress on thesis research.
- Present a half-hour colloquium as part of the GPN seminar series.
- Present a poster at the annual retreat.
- A good goal is to write a paper this year.
- Prepare your Oral Preliminary Examination as an NRSA application.

2. Satisfactory progress

- Maintaining a 3.0 grade point average in all classes.
- Making adequate research progress.
- Passing the oral preliminary exam.
- Have formed a thesis committee.

3. Register

- Complete thesis credit requirement. (At least 24 credits total, over years 2 & 3)
- Once you have completed your classwork and have passed your oral prelim, register for 1 Post Thesis credit (NSC 8444).

4. Deadlines and specific steps

- File annual report form and meet with DGS/ADGS
- File Graduate Planning & Audit System (GPAS) with Graduate School (link)
- File Thesis Committee Selection with Graduate School (link)
- Research proposal for oral exam is due 1/September.
- Oral preliminary must be scheduled at least 1 week before the oral exam. (link)
- Oral preliminary exam must be completed before 1/December.

D. Year 4 and beyond

1. General steps

- Make progress on thesis research.
- Present a half-hour colloquium as part of the GPN seminar series.
- Present a poster at the annual retreat.
- Students are encouraged to present a poster at Biomedical Science Research Recognition Day
- A good goal is to write a paper this year.
- Consider submitting an NRSA application if it hasn't been funded already.

2. Satisfactory progress

- Making adequate research progress.

3. Register

- Register for 1 Post Thesis credit (NSC 8444)

4. Deadlines and specific steps

- File annual report form and meet with DGS/ADGS
- Meet twice annually with your thesis committee. The meeting form must be filled out and filed with the program coordinator.

5. When you are ready to graduate…

- Make sure that your advisor and committee also thinks you are ready.
- Your dissertation needs to be turned in to your committee **one month** before you can defend.
- The readers on your committee will then have **two weeks** to read the dissertation and approve it for defense.
- If your dissertation is approved for defense, you may schedule the defense any time at least **two weeks** after approval. It should be announced to the GPN as soon as possible.

Note: In practice, it is a good idea to know what date and time work for your committee. Scheduling the availability of four or more faculty can be difficult. **It is preferred for thesis defenses to occur during the Wednesday noon seminars, but this is not a requirement.**

Graduate Program in Neuroscience (GPN)
MD-PhD Milestones

These milestones do not include the milestones from the MD program. MD/PhD students are expected to graduate in year PhD3 or PhD4.

NEVER register for any credits during the summer without prior discussion with the program coordinator. Registration during summer is not required to maintain health insurance coverage.

A. M1

1. *General steps*

- Year 1 medical school curriculum.
- 1st rotation: summer prior to the start of the year 1 medical school

2. *Deadlines*

- Meet with the DGS to discuss rotations and progress.
- Join the GPN for the annual retreat.

B. M2

1. *General steps*

- Year 2 medical school curriculum.
- 2nd rotation: summer between Year 1 and Year 2.

2. *Deadlines*

- Meet with the DGS to discuss rotations and progress.
- Join the GPN for the annual retreat.

C. Summer between M2 and PhD1

1. *General steps*

- Confirm an advisor.
- Clinical rotation (or not).
- Year 2 medical boards.
- Itasca neurobiology course.

2. *Register*

a) Summer session

- Nsc 5551: Cell & Molecular Neurobiology Lab at Itasca (4 cr)

3. *Satisfactory progress*

- Finding an advisor with whom to do your thesis project.

D. Year PhD1

1. *General steps*

- Core coursework
- **Begin thesis research**
- Written preliminary exam
- Begin writing Individual Development Plan (IDP)

2. *Satisfactory progress*

- Making adequate research progress.
- Maintaining a 3.0 grade point average in all classes.
- Performing satisfactorily on the written preliminary exam.

3. *Register*

Fall semester

- Nsc 5461: Cellular and Molecular Neuroscience (3 cr)
- Nsc 5561: Systems Neuroscience (4 cr)
- Nsc 8321: Career Skills (1 cr)

Spring semester

- Nsc 8111: Quantitative Neuroscience (3 cr) or Nsci 5551 : Computational Neuroscience (3 cr)
- Nsc 8321: Career Skills (1 cr)
- Elective Coursework

4. *Deadlines*

- Meet with the DGS/ADGS twice a year.
- Pass Written Preliminary Examination

E. Year PhD2

1. *General steps*

- Make progress on thesis research.
- Present a half-hour colloquium as part of the GPN seminar series.
- Present a poster at the annual retreat.
- Complete TA requirement.
- A good goal is to write a paper this year.
- Consider submitting your oral prelim proposal as an NRSA F30 application.

2. *Satisfactory progress*

- Maintaining a 3.0 grade point average in all classes.
- Submit written preliminary exam rewrites, if needed, before 1/Jan of year 2.
- Have formed a thesis committee in discussion with the DGS.
- Passing the Oral Preliminary Exam.
- Making adequate research progress.

3. Register

Fall semester (registration should be 14 Credits Total)

- Elective Coursework
- Nsc 8888: Thesis Credits (up to 14 Credits, depending on elective coursework)

Spring semester (registration should be 14 Credits Total)

- Nsc 8321: (Career Skills) (1 cr)
- Elective Coursework
- Nsc 8888: Thesis Credits (up to 13 Credits, depending on elective coursework)

4. Deadlines and specific steps

- File annual report form and meet with DGS.
- File Degree Program with Graduate School (link)
- File Thesis Committee Selection with Graduate School (link)
- Research proposal for oral exam is due January 2nd.
- Oral preliminary must be scheduled at least 1 week before the oral exam. (link)
- Oral preliminary exam must be completed before January 20th.
- Meet twice annually with your thesis committee. The meeting form must be filled out and filed with the program coordinator.

F. Year PhD3 and beyond

1. General steps

- Complete thesis credit requirement.
- Make progress on thesis research.
- Present a half-hour colloquium as part of the GPN seminar series.
- Present a poster at the annual retreat.
- A good goal is to write a paper this year.
- Consider submitting an NRSA application if it has not been funded already.

2. Satisfactory progress

- Making adequate research progress.

3. Register

- Complete thesis credit requirement – Fall. (At least 24 accumulated credits)
- Register for 1 Post Thesis credit (NSC 8444) – Spring.

4. Deadlines and specific steps

- File annual report form; Meet with DGS/ADGS twice a year.
- Meet twice annually with your thesis committee. The meeting form must be filled out and filed with the program coordinator after one of these thesis committee meetings.

5. When you are ready to graduate…

- Make sure that your advisor and committee also thinks you are ready. All committee members must submit a form to the Graduate School that they have read the thesis and believe it is ready to be defended.

- Your dissertation needs to be turned in to your committee **one month** before you can defend.
- The readers on your committee have **two weeks** to read the dissertation and approve it for defense.
- If your dissertation is approved for defense, you may schedule the defense any time at least **two weeks** after approval. It should be announced to the GPN as soon as possible.

  Note: In practice, it is a good idea to know what date and time work for your committee. Scheduling the availability of four or more faculty can be difficult. **It is preferred for thesis defenses to occur during the Wednesday noon seminars, but this is not a requirement.**