



PROGRAM GUIDELINES 2020/21

Behavioral and Systems Neuroscience Graduate Program

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Overview

The Behavioral and Systems Neuroscience Graduate Program (BSN) has a long-standing commitment to educating the next generation of neurobiologists. Our objectives are that students learn to conduct high-quality research that enhances our understanding of brain-behavior relationships and improves health and well-being; that they have the ability to disseminate their research within and beyond the general science community; and that they graduate prepared to select and pursue a fulfilling career utilizing their skills. Graduate training is an exciting activity but can be overwhelming. These guidelines serve to help trainees and faculty through this process. They do not, however, supersede the OHSU Academic Regulations for the School of Medicine Graduate Programs. In this document, we refer to this Graduate Program as BSN, and the SOM Department that hosts BSN and Behavioral Neuroscience.

Important update: After the recent approval by the BSN faculty, there are ongoing additional discussions regarding improving diversity, fighting racial injustice and increasing success of students in the program. These Guidelines are submitted for the June 19th, 2020 deadline with the understanding that additional changes will follow soon.

Program Milestone Overview

Program Milestones		Deadlines
M1	Complete research rotations and select a mentor	<i>Expected:</i> Winter Yr1 <i>Required:</i> Spring Yr1
M2	Complete core coursework	Fall Yr1
M3	Pass reprint exam	Spring Yr1
M4	Complete elective coursework	Before graduation
M5	Pass qualifying exam	Early Fall Yr3
M6	Complete dissertation ¹	Spring Yr6

Detailed Checklist and General Timeline

Program Milestones		Deadlines
M1	Complete 2-4 research rotations (BEST 601)	First year, Winter and Spring quarters
M1	Select mentor and lab. Prepare Ph.D. Mentor Assignment form with assistance from Program Coordinator	<i>Expected:</i> First year: end of Winter quarter <i>Required:</i> First year: end of Spring quarter
M2	Core courses: BEST624/NEUS624, NEUS625, BEST640	First year: Fall quarter
M2	CONJ 650: The Practice and Ethics of Science	First year: Fall quarter
M2	Statistics elective (3 credits)	Second year: by end of Spring quarter
M2	BEST 607 Seminar	Year 1-3: Winter and Spring
M3	Student sends email about the Reprint exam to the Graduate Program Director (See Reprint Exam section for email details)	4 weeks before Reprint Exam
M3	Reprint Exam Committee Chair sends email to student with select Reprint Exam paper	2 weeks before Reprint Exam
M3	Reprint exam	First Year: end of Spring quarter
M4	9 elective credits completed	Before graduation

¹ Per [By-Laws of the Graduate Council](#): *The time period from matriculation to granting the Ph.D. degree shall be limited to 7 academic years.* This includes the period after the dissertation defense when the student is preparing to submit the final dissertation document to the OHSU library.

Program Milestones		Deadlines
M5	Qualifying examination (QE) formation: Send email to Program Director and Graduate Program Coordinator with list of four proposed QEC members	At least one month before the written proposal is submitted.
M5	QE: Submit written research proposal to QEC	At least two weeks before scheduled oral presentation
M5	QE completed: Present departmental seminar on proposed research, and take oral examination	Third year: end of Fall quarter
M6	Select Dissertation Advisory Committee (DAC). Send Request for Advisory Committee form to Program Director and Program Coordinator	Third year: end of Winter quarter
M6	Complete Behavioral and Systems Neuroscience Ph.D. Proposal Approval form	Year 3: Before first day of Fall quarter, year 4
M6	Meet with DAC and present research proposed for dissertation	Third year: end of Summer quarter
M6	Meet with DAC to discuss progress	After initial meeting: Every six months
M6	Send dissertation document to DAC for review	At least 6 weeks before scheduled defense date
M6	Complete BSN Dissertation Approval form	Before Program Director signs Request for Oral Exam.
M6	Send Request for Oral Examination Form to Graduate Studies	At least 4 weeks before scheduled defense date
M6	Dissertation: departmental seminar and oral exam	<i>Recommended:</i> By end of 5 th year <i>Required:</i> By end of 7 th year (including final PhD requirements)
M6	Complete final PhD requirements up to and including submission of final document to OHSU library	* <i>Strongly preferred:</i> By the end of quarter in which the oral exam occurred. SoM requirement: Within 6 months after oral exam

Additional Considerations

1. **Behavioral Neuroscience Responsible Conduct of Research (RCR 003):** Seminar offered every three years. If this occurs in a student's first year, attendance is waived, but required for all other students. First year students have to take CONJ 650 The Practice and Ethics of Science (Fall) in their first quarter.
2. **Annual Student Evaluation:** Student submits an annual student evaluation form by June 20 of each year. The Graduate Program Director meets with the student to discuss the progress. Progress reports are forwarded to SOM Graduate Studies Office and BSN Graduate Program Coordinator.
3. **Behavioral Neuroscience Trainee Seminars.** All trainees, except students in the first or last year of their graduate studies, are expected to present on their research at the Departmental seminar. The presentation is half an hour, including questions and answers. There are no academic credits for the seminars. The seminars are obligatory for attendance by students, postdocs and faculty.
4. **Teaching Practicum (BEST 650):** After passing the qualifying exam, students are eligible to enroll in a teaching practicum course with permission from their mentor. This course provides instruction and practice in undergraduate teaching.

5. **Additional Requirements for MD/PhD Students:** MD/PhD students should consult the MD/PhD program coordinator for additional requirements. [School of Medicine MD/PhD Program](#) website.
6. **Flexibility.** The Program follows these guidelines and deadlines to their best of abilities of participating faculty. Unusual circumstances, like natural disasters, allow deviations from these rules as determined by Graduate Program Director, Department of Behavioral Neuroscience Chair, participating faculty and SOM Graduate Studies.

Definitions

Definitions

- **Dissertation Advisory Committee (DAC):** The DAC guides and advises student on research and dissertation preparation. The DAC is composed of at least four faculty members with expertise in one or more aspects of the student's project and who are familiar with the requirements of the graduate program. See [DAC Formation](#) section for more details
- **Graduate Program Advisory Committee (GPAC):** Graduate Program Director (Marina Guizzetti), Curriculum Committee Chair (Deb Finn), and Graduate Program Coordinator (Christine Lee-Roth). An informal committee that meets on an as-needed basis to discuss graduate program issues.
- **Oral Examination (OE):** Final exam consisting of a public seminar and oral questioning. See [Oral Examination](#) for more details
- **Ph.D. Candidate:** A Ph.D. graduate student who has successfully completed the qualifying examination and is in good academic standing. A Ph.D. candidate has completed all required coursework and examinations and is determined to be ready for dissertation research.
- **Qualifying Examination (QE):** A required exam consisting of a public seminar and oral questioning. See [M5 Qualifying Exam](#) for more details
- **Reprint Exam:** A required first year exam. The exam evaluates: (1) the ability to critically assess a research article, and (2) oral expression skills.

Links and Forms

Login with OHSU network credentials may be required for some sites

Links

- [Basic Science Shared Administrative Services](#) (internal Bridge site)
- [CONJ 650 The Practice and Ethics of Science](#)
- [Department of Behavioral Neuroscience](#) (internal Bridge site that includes Forms and Deadline summary)
- [Department of Behavioral Neuroscience](#) (public website)
- [OHSU Academic Regulations for the School of Medicine Graduate Programs](#)
- [Neuroscience Graduate Program](#)
- [NIH eRA Commons](#)
- [OHSU](#)
- [Registrar's Office](#)
- [Sakai](#)
- [School of Medicine Graduate Faculty](#)
- [School of Medicine Graduate Student Stipend Policy](#)
- [School of Medicine Graduate Studies](#)
- [Student Portal](#)

Forms

- [Graduate Studies Forms & Policies \(Most forms are found in “Student Forms.”\)](#)
- [Registrar’s Office General Forms & Information](#)
- [Graduate Council By-Laws](#)
- [Rotation Request](#)

Program Contacts

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Admissions

Our Program strives for admitting top candidates from diverse backgrounds with excellent academic credentials, research experience and motivation for research in our program. The emphasis in this process is on being able to provide resources and expertise to ensure development of students by matching the motivation of the candidates with expertise and funding of our training faculty. Each Fall, an Admission’s Committee (AC) is formed consisting of the Department Chair, Graduate Program Director, Graduate Program Coordinator, Committee Chair and 3-5 additional faculty. The Graduate Program Coordinator ensures that incoming applications are complete. AC Chair distributes the incoming application to AC committee members for primary reviews and to additional faculty for secondary reviews. By the end of the Fall quarter, the AC meets to evaluate the applications and select candidates who will be invited for interviews. The Graduate Program Coordinator invites the applicants and communicates with them, ensuring their arrival for interviews.

The interviews are scheduled in February or early March. All interviews are in-person. In a few cases, remote interviews are permissible if a potentially excellent candidate can’t visit on the scheduled day of interview. The interview day

schedule can change depending on the circumstances, but always includes a Q&A session with the Graduate Program Director, at least 4 interviews with training faculty, scientific presentations and a tour of the facilities. The faculty and current students are requested to provide their feedback on the applicants within a few days after the interview day. The Graduate Program Coordinator compiles this feedback to be available to training faculty. The interviewed applicants are then discussed at a general faculty meeting, which decides whom of the interviewed applicants to offer admission. The Graduate Program Director and Graduate Program Coordinator communicate the faculty's decisions to the applicants.

First Year Faculty Advisor and Student Advisor

The Graduate Program Director will assign a student advisor to each new student prior to the student's arrival. The Program director will also act as the faculty advisor to new students until they have joined a lab. In this role, the advisors will meet with the student at least once per term to discuss coursework, academic performance and research opportunities, help find appropriate labs for rotations and dissertation research, and otherwise help and advise the student during the first year. The student advisor will provide a student perspective to help the student select classes, rotation placements, and provide other information relevant to adjusting to graduate school and life in Portland. The advisor also helps the student to propose a NSF fellowship application, if eligible.

M1 - Research Rotations

New graduate students are expected to participate in 2 research rotations during the Winter quarter (BEST 601). If after these 2 rotations the student has not chosen a mentor, subsequent 1-2 rotations can be arranged in the Spring quarter. Completion of 3 rotations is not required. 2 rotations are sufficient if the faculty member and graduate student determine that there is a good match.

The research rotations involve spending a substantial amount of time engaged in research in the laboratory of a BSN Faculty member. These rotations give new students an opportunity to learn more about particular labs and PIs through participation in a defined research project before making a commitment to a lab for the Ph.D. Rotations should be designed to further the student's training as a researcher (i.e., they should not consist merely of "lab tours" or dishwashing). On the other hand, they provide a test for student's fit with the laboratory and their research skills. At the end of the rotation, the rotation advisor will provide the student with a firm "yes" or "no" if they would accept the student into the lab.

Research Rotation Guidelines

Purpose

Research rotations provide the first step in determining where each first year graduate student will conduct their dissertation research.

Prior to Rotations

The department keeps a list of [training faculty](#). The Graduate Program Director solicits information about available rotation projects from training faculty early in the Fall quarter and distributes the list of projects to students. The students select their rotation sites from this list and through additional interactions with potential rotation preceptors. Once the preceptor is identified, the preceptor and student complete the [Rotation Request Form](#) and forward to the Graduate Program Coordinator no later than 4 weeks before the start of the rotation. The request includes a brief description of the proposed project.

All rotation assignments are reviewed by the Graduate Program Director and the Chair of the Department of Behavioral Neuroscience. The Graduate Program Director assigns research rotation placements for each student during the first year. In making these assignments, strong preference is given to: (a) matching the interests of the student with available

research opportunities, (b) assigning faculty who are willing and have the resources needed to serve as the student's faculty mentor after the 1st year, (c) clearly defined rotation project as outlined by the preceptor faculty.

Duration of Rotations

Students don't participate in rotations in the Fall term. In Winter term, students have a limited course load and are expected to participate in at least 2 rotations. Depending on the research involved, the rotations can either be in "parallel" or "series." Rotations conducted in parallel run the full term as two 10-12 week rotations. The student commits to each lab at different times of the week. Rotations conducted in series are conducted in sequence as two 5-6 week rotations. The cumulative duration of both types of rotations span the entire term. Consecutive rotations in the same lab are possible with the permission of the Graduate Program Director.

Number of Credits

First year students are expected to register for at least 5 hours of research credit per rotation (BEST 601 Research). It is expected that first year rotation students will spend a minimum of 15 hours a week per lab for parallel (10-12 weeks) rotations and a minimum of 30 hours in the lab each week for series (5-6 weeks) rotations. Any significant deviation from that level of commitment of time should be discussed with Graduate Program Director.

See also [OHSU Policy No. 02-50-015](#) regarding Assignment of Course Credit Hour: *"Laboratory Instruction: One credit is assigned for three hours of laboratory instruction or its equivalent per week per term"*

Rotation Activities

The rotation project should follow the topic proposed for the rotation in the Fall term, but can deviate per student and preceptor agreement. The project typically includes: (a) learning of surgical, analytical or other specialized laboratory techniques; (b) learning to use computers and other equipment for data collection and analysis; (c) assistance in the execution of ongoing research; (d) development and implementation of an individual research project.

Each student is expected to meet individually with their research advisor for at least 1 hour once a week during the rotation. This time should be used to increase the student's knowledge and understanding of the research conducted in the rotation advisor's laboratory. For example, time could be spent discussing recent research or review papers (from the rotation advisor's lab or elsewhere), the rationale for ongoing projects, research design/methodology or anything else that seems appropriate. It is suggested that student and rotation advisor decide in advance what they intend to discuss so that each can prepare for the meeting as needed. Students are also expected to participate in regular lab activities such as lab meetings.

Each student participates in a scientific writing experience during the rotation. At the end of each rotation, students are expected to write a more detailed report of their rotation. The format should be similar to a brief scientific paper and include a 200-300 word referenced introduction to the project, followed by methods and results sections of scientific journal quality, a thoughtful and referenced 400-500-word discussion of their findings and their difficulties, and a list of citations. The final version of the rotation report (not a draft) is due last day of the rotation term and graded by the rotation advisor.

Rotation Grading

BEST 601 (Rotation) research credits are graded as Pass or No Pass and are reflected on the student's transcript. Evaluations for the rotation also include a letter grade for the report, which is not recorded on the student's transcript. The letter grade and report are reviewed by the Graduate Program Director and kept in the student's file. The faculty preceptor also completes a rotation evaluation report by the end of the quarter. A No Pass grade on one rotation results in automatic probation. A No Pass grade on two rotations results in student's termination from the Program, at the discretion of Graduate Program Director.

M1 - Selection of a Faculty Mentor

The deadline for identifying the Behavioral Neuroscience faculty mentor is the end of winter term of the first year. This deadline may be delayed if the student conducts a rotation during Spring term. In that case, it is **required** that the student identifies an appropriate faculty mentor at least two weeks before the end of Spring term of their first year.

Selecting a faculty advisor is a major decision. Students are encouraged to discuss their questions and concerns with prospective mentors, the Graduate Program Director or the Department Chair at any time. Assignment of faculty mentors must be approved by the Graduate Program Director and the Department Chair.

Upon selection of a faculty mentor, the [Mentor Assignment Form – PhD Programs](#) should be completed. If, at the end of the student's first year, they receive 4 "no"s, the program will consider dismissal of the student.

M2 - Required Courses

Students are required to earn a minimum of 135 graduate-level term-hour credits. At least 100 hours must represent credit hours earned in the Department of Behavioral Neuroscience (hours labeled BEST). These credit hours may be Research courses (BEST 601, 602 or 603), didactic courses, journal clubs, nanocourses, or seminars. Graduate credit is granted only for courses in which an A, A-, B+, B, B-, C+, C, or P (Pass) grade is received. C- or lower will not earn credit. Students are required to maintain a minimum GPA of 3.0 in graduate-level courses.

Full-time status is maintained with a course load of 9 credits/term. Students cannot register for more than 16 credits without permission of the Associate Dean. Typically, students register for approximately 12 credits/quarter throughout their graduate career.

First Year Curriculum

Students must complete all of the following didactic courses during the 1st year.

- CONJ 650 The Practice and Ethics of Science (Fall)
- BEST 607 Issues in Behavioral Neuroscience Seminar (Winter & Spring)
- BEST 624 Neurophysiological Basis of Behavior (Fall) or NEUS 624 Cellular Neurophysiology
- NEUS 625 Cellular and Molecular Neurobiology (Fall)
- BEST 640 Behavioral Systems Neuroscience (Fall)

Required Course Descriptions

BEST 607 Issues in Behavioral Neuroscience Seminar

All 1st, 2nd, and 3rd year students must register for and participate in the weekly graduate seminar, BEST 607: Issues in Behavioral Neuroscience (1 hour), during Winter and Spring terms.

BEST 607 General Information

The seminar course (1 credit/quarter; 1 hour/week) is offered in the Winter and Spring terms each year. The format is that of a journal club focusing on a particular research topic, but not a content-oriented mini-course. The course should not be organized so that each class builds on the information provided in the previous classes. The primary purpose of the seminar is to: (a) give students experience making oral presentations, (b) teach students to think critically about research, and (c) expose students to contemporary issues in behavioral neuroscience. The registration form and transcript will use the generic title "Issues in Behavioral Neuroscience Seminar" without any descriptor suffix.

The course director(s) identifies one or more topics or themes to be used in guiding paper selection. Themes should be clearly relevant to behavioral neuroscience. One paper is presented each week. The specific criteria for paper selection will be determined by the course director(s). The presenting student can choose the specific paper but it must be approved by the course director.

BEST 607 Attendance Requirement

All BEST graduate students in their first, second, and third years are required to register for credit and participate fully by attending and submitting a critique of the week's paper prior to its presentation (see below).

One excused absence is permitted per quarter. As a courtesy, inform the Course Director in advance by email. It is expected that an absent student will still submit a critique of the assigned paper. Additional absences may affect the student's grade and should be approved in advance by the Course Director and Graduate Program Director.

BEST 607 Organization and Structure

One to two faculty members are assigned as Course Director(s) during each quarter. A senior graduate student or a postdoctoral fellow may provide assistance with organization and discussion. The Course Director remains responsible for assigning grades.

The course convenes on Wednesdays from 4PM-5PM in Mackenzie Hall 2201 during Winter and Spring quarters. The Course Director is expected to attend all classes. In the event that the Course Director is unable to attend a class on a given date, they should find another faculty member to facilitate and oversee discussion.

BEST 607 Presentations

One student presents the seminar paper each week. The Graduate Program Coordinator maintains a list of student presentation dates and will share with future Course Directors to ensure fair distribution of presentation assignments.

Presentations should not contain an excessive amount of background information requiring weeks of preparation. Instead, the presentations should focus on material contained in the assigned paper. In addition to presenting the assigned paper, the presenter leads the discussion based on the critiques received. The student presenters will send their paper to faculty with relevant experience and encourage them to attend the presentation. Additionally, students will strongly encourage their mentor(s) to attend their presentation. Course Directors should set and enforce time limits on the presentation to ensure sufficient opportunity for group discussion.

BEST 607 Critiques

All students, except for the presenter, provide a short critique of the paper. The critique typically contains elements of the following:

- Brief summary of the findings
- Is there a clearly stated hypothesis?
- Were the correct statistical analyses employed?
- Were the results sufficiently and clearly described?
- Do the results validate the conclusions?
- What were the strengths and weaknesses of the paper?
- Does the rationale for the reported experiments provide adequate justification for the study?
- Are there clear or possible ethical issues with the study that we might consider?

The entire critique should be approximately a ½ page long and limited to the most important issues. Do not discuss possible interesting experiments the authors could have carried out unless they would be required to make the paper acceptable to you.

Critiques are posted in the Forum tool in the Sakai course management system. Students post their critiques by 12 noon the Monday before seminar. The critiques will be published and available later that day.

Note to faculty: The Forum tool in Sakai has a moderation feature, which is helpful to manage distribution of student critiques. When moderation is on, forum posts are not immediately available to registered students on the Sakai site. They are held for review by either the teaching assistant or course director. Once the post is reviewed and approved, it is visible to other members of the site – specifically registered students. The generally accepted practice is to have

students submit their critiques by the Monday at 12 noon deadline - then either the course director or teaching assistant approves all the posts after all critiques have been submitted. Please contact the Graduate Program Coordinator for more information.

BEST 607 Grading

The individual course syllabi should contain a paragraph explaining how grades will be assigned. Grading should be based on the thoroughness of the presentation (if applicable), the weekly critique of the paper, and the participation during discussion.

BEST 607 Evaluations

Presentation evaluation surveys are sent to students, postdocs, and faculty the day of the presentation. Results are collected and distributed to the student presenter the following Monday.

BEST 607 Student Expectations

- Show up on time.
- Engage in the presentation.
- Participate in the discussion.
- With the exception of technology required for the presentation, do not use electronic devices during class time. In extreme circumstances, such as family emergencies, explain the need for the potential use of an electronic device prior to class to the faculty teaching the class.
- Present on a regular basis.
- Encourage mentor and faculty with relevant expertise to attend.
- Submit paper critique by Monday deadline.
- Communicate with Course Director regarding deadline extension requests, absences, and other course-related issues.

BEST 607 Course Director Expectations

- Select theme/topic.
- Select paper in consultation with each student to be presented in each class.
- Create syllabus, presentation schedule, and grading rubric.
- Provide feedback to presenters.
- Provide assistance for discussion moderation.
- Assign grades.

CONJ 620 and CONJ 650 Biostatistics

Visit the [Graduate Program in Biomedical Sciences \(PBMS\) course description page](#) for information on CONJ 620 and CONJ 650.

NEUS 624 Cellular Neurophysiology

Core Course. 4 credits

This course presents the fundamental principles of how nerve cells work. Starting with ion channels themselves, it integrates them into the functioning of individual neurons. The way in which voltage-dependent ion channels act in concert to generate action potentials and synaptic potentials is discussed in the framework of basic physical laws. The mechanisms of transmitter release and the postsynaptic actions of transmitter are studied. The overall aim is to provide students with a quantitative understanding of how individual nerve cells communicate with each other. This course is the first in a sequence of three courses presented sequentially in the first term.

BEST 624 Neurophysiological Basis of Behavior

Core course. 3 credits (students take this course if NEUS 625 is not offered)

Students who complete this course will have a basic understanding of the properties of nerve cells, synaptic transmission, and forms of synaptic plasticity. They will understand the fundamentals of fast synaptic transmission, using ligand gated ion channel neurotransmitter systems as examples, as well as form a basic understanding of second messenger-mediated transmission, using modulatory neurotransmitter systems as examples. Through this course, students will understand the basic principles of synaptic transmission and neuropharmacology, and the electrophysiological methods used to examine these fields. Students will also gain insight into the role of specific neurons in particular behaviors.

NEUS 625 Cellular and Molecular Neurobiology

Core course. 4 credits

This is a survey course designed to introduce the cell and molecular mechanisms underlying the development, structure and function of the nervous system. The course is divided into three general topic areas: Development, Cell Biology and Signaling in the Nervous System.

BEST 640 Behavioral Systems Neuroscience

Core course. 5 credits

Students who complete this course will have a basic understanding of the principles of neuroanatomy, sensory neurobiology, micro and macro circuits through cortical, limbic, cerebellar, and brainstem regions pertinent to behavior analyses, hippocampal and amygdalar circuits & physiology, neural processing of sleep, fear motor behavior, cognition, and motivated behavior, stress, social behavior and genetics of behavior.

M3- Reprint Exam

Overview

During the first year of graduate training, students are expected to obtain experience in the critical evaluation of original research reports. This training is provided in part by the core courses and is typically supplemented by a program of supervised reading with their rotation preceptors and research advisors. Students are strongly encouraged to seek their advisor's counsel in preparing for this exam.

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

Reprint Examination Committee ("REC")

Three OHSU graduate faculty members assigned to evaluate the student's reprint exam: the REC includes the mentor, if the student has chosen one. The mentor will not be the Chair of REC.

Timeline

- Students are expected to pass the reprint exam by the **end of spring quarter**.
- Four weeks prior to the exam: The student will send an email to the advisor, the Graduate Program Director and the Graduate Program Coordinator, that should include the following:
 - The proposed REC members (the student confirms that the faculty agreed to be on the committee),
 - A brief (less than 50 words) description of the general research area of interest,
 - Up to 4 suggested research papers, and
 - Provides the tentative exam date(s). Students are responsible for finding available rooms for the exam and reserving them for 1 hour.
- The Graduate Program Director appoints the REC (suggestions by the students are considered but not guaranteed).

- The REC discuss suitable papers for the student to present and decide on the exact time of the exam.
 - The selected paper is **not** limited to the papers suggested by the student. However, committee members should base selection of new papers on research themes present in student-suggested papers.
 - Suitable papers meet the following criteria:
 - Published within the last year
 - Includes behavioral measures as well as other methods (molecular, cellular, etc.)
 - Published in a high-caliber journal
 - Related to student's research interests and/or current research
- **Exactly two weeks prior to the exam:** The REC Chair, in consultation with the other two REC members, informs the student via email of the selected paper.
- Immediately after the exam: The student is dismissed briefly while the REC determines the exam outcome: pass or fail. The student returns to the room and the REC chair informs the student of the exam results. If the REC recommendation is that the student failed the reprint examination, then the REC provides the student with feedback on deficiencies that resulted in that recommendation.
- Within one day of exam completion: The REC chair sends an email to the Graduate Program Director and Graduate Program Coordinator to notify them of the examination outcome; the student is copied on this email. If the student passed the exam, no further information is required. If the student failed, the email includes deficiencies that were discussed with the student immediately after the exam.
- Within three months after failed exam: Complete re-take of exam, if appropriate, unless different timing is approved by the Graduate Program Director.

Preparation

Students have two weeks within which to prepare for the Reprint exam. During this time, no REC members, including the student's advisor, may assist the student with questions relating to the paper, nor may any REC member help in any capacity (i.e. proofreading or attending a practice talk). However, senior graduate students and other members of the community (research technicians, post-doctoral fellows, other faculty, etc.) may help while the student is preparing for the exam.

Examination

Electronic Devices

With the exception of technology required for the presentation, **no electronic devices are permitted during the examination.** This applies to the student and every faculty member of the examining committee.

Format

The Reprint Exam is restricted to the student and the REC. The Graduate Program Director or one additional faculty member assigned by the Graduate Program Director can be present at the exam in addition to the REC. This person does not participate in the exam, but evaluates the consistency of the exam quality. At the examination the student presents background material and discusses the paper's major points, analyzing the rationale for the research, the methodology chosen, the validity of evidence obtained, and the conclusions drawn from the analysis. Twenty to thirty minutes are provided for the presentation, during which the student is expected to primarily focus on the results of the paper. The REC then questions the student on the presentation and other relevant topics including relevant literature and details of methodologies used in the paper.

Role of the REC Members

The REC chooses the paper to be presented, evaluates the presentation, asks questions related to the research paper and background information, and assigns a pass or fail grade at the end of the examination. The REC chair sends an email with the exam results to the student, mentor, Graduate Program Director, and Graduate Program Coordinator

within one day of the exam. No committee member, including the student's mentor, may provide assistance to the student during the exam.

After the Examination

Assessment and Grading

The student will be assessed on the following criteria:

- Familiarity with the literature relevant to the paper
- Knowledge of background information, including relevant information from core classes
- Knowledge of the methods used in the paper
- Critical analysis of research paper (e.g., paper's main points, rationale for research and methods chosen, validity of results and conclusions)
- Organization and structure of the presentation
- Ability to thoughtfully answer questions

At the conclusion of the exam, the committee selects one of two options: pass or fail. Within one day of the exam, the REC chair will email the student that either confirms the examination pass or provides feedback on the deficiencies that resulted in the recommendation for an examination fail. The Graduate Program Director and Graduate Program Coordinator receive a copy of this report.

Re-examination

If the student fails, the exam may be taken for a second time provided that the student was not already on probation. If the student is already on probation, then failure may, at the discretion of the Graduate Program Director and BEST faculty, result in termination of the student from the program. Failing the reprint exam, or any other program milestone, results in the student being placed on probation. A failed reprint exam must be retaken within three months, unless otherwise approved by the Graduate Program Director. The exam will follow the same procedure and format as the first exam, but with a new article selected by the REC. It is expected that the exam committee will remain the same, though a student may petition the Program Director to request that one member of the committee be changed.

M4 – Elective Coursework

Nine hours of elective credits. These credits can come from journal clubs (limit of 3 hours), nano courses (with Graduate Program Advisory Committee approval), advanced topics, and additional electives *inside* or *outside* of Behavioral Neuroscience. These electives are primarily taken during the second year. They can be taken in the first year, but should not interfere with rotations.

BEST Elective Course Descriptions

BEST 620 Neurochemical Systems Relevant to Behavior

1 credit

This course examines the mechanisms by which major brain neurotransmitters and modulators are synthesized and released and the biochemistry of synaptic responses. Basic physiological, biochemical, and morphological characteristics of neuronal transmission will be discussed. An emphasis will be placed on the experimental approaches used to examine these processes.

BEST 626 Behavioral Psychopharmacology

3 credits

This course emphasizes the multi-disciplinary study and pharmacological treatment of various psychiatric and neurologic disorders. Behavioral disorders will be examined at the clinical level, in animal models, through various anatomical pathways in the CNS and at the molecular level. The first six classes will be devoted to basic principles of pharmacology,

including pharmacokinetics and pharmacodynamics. The remainder of the course will be comprised of modules devoted to disorders such as Depression, Schizophrenia, Anxiety Disorders, Autism Spectrum Disorders, Eating Disorders, and Pain. Psychiatrists and/or neurologists will discuss clinical aspects of the disorders; animal models of the disorders will be discussed and assessed for their validity for human behavior; and the pharmacology of drug treatment and neurobiology of the disorders will be discussed. The majority of classes will have a lecture format; however at least one class will be comprised of a patient interview, and student presentations will be devoted primarily to discussions of animal models.

BEST 616 Neurobiology of Learning and Memory

1 credit

The goal of this course to familiarize students with current thinking about the neurobiology of learning and memory. The course will focus on theoretical processes involved in memory and will evaluate experimental approaches designed to investigate the neurobiological systems, cellular, and molecular mechanisms involved in these processes. The course emphasizes critical analysis of experimental design and theoretical interpretations. A different topic will be considered each week and classes will alternate between background lectures by the instructor and student presentations that will address empirical work supporting two sides of a theoretically contentious issue related to that week's topic. At the end of the course, students will have a basic understanding of neurobiological mechanisms involved in memory and will be able to evaluate experimental approaches designed to investigate these mechanisms.

BEST 627, BEST 628 Neuroscience of Aging

1 credit each

This is a team-taught survey course on neurobiology of aging that includes 1 introductory module on concepts in aging research, and aging of non-CNS systems, as well as modules on the neuroscience of aging of sensory, motor, and cognitive systems as well as neurodegenerative diseases. Each module examines the topic from the molecular to the human level of analysis.

BEST ### (to be determined) Neurobiology of Addiction

2 credits

The course focuses on theoretical processes involved in addiction and will evaluate experimental approaches designed to investigate the molecular, cellular, and systems neurobiological mechanisms involved in these processes. The course emphasizes critical analysis of experimental design and theoretical interpretations. Different topics will be discussed each week and the class meeting will consist equally of presentations and discussion.

Research Credits

Students who have not advanced to Ph.D. candidacy are required to register each term for at least five credits of BEST 601. If a graduate student fails (i.e. receives a grade of NP – No Pass) a term of research credits, the student is immediately placed on academic probation. The student is required to obtain a passing grade in the next term (and subsequent terms) of research credits or the student may be dismissed from the graduate program. The student is required to notify and meet with their advisor immediately upon receiving a failing grade on the research credits in any one term. The advisor will suggest a course of action that the student must follow in correcting academic performance.

BEST 606 Qualifying Exam Journal Club

1 credit

The program qualifying exam includes a requirement that students create a research plan that broadly conforms to NIH NRSA guidelines. Students who complete this course will be familiar with the required elements of writing a project summary and narrative, specific aims, and a research strategy section of an NIH NRSA application; will have created complete versions of these sections; and will have participated in discussions of those sections with other students

taking the course. These activities should provide techniques and a basis on which to prepare for their qualifying exam as well as future NRSA application.

BEST 605 Reading and Conference

1 credit

Reading and Conference course for 1 credit per quarter can be taken at any time during student's coursework. This course can be taken with any one of the training faculty (mentor or otherwise). Since the students and mentors are already meeting regarding literature that is relevant to the student's research, the intent of this course is to expand discussions of an area in addition to the main direction of student's current studies. This course can be taken on a P/NP basis or for a letter grade.

Other Journal Clubs

1 credit

An in-depth examination of the literature on a particular topic that will vary from quarter to quarter. The course objectives are to provide an up-to-date overview of the topic of interest and to provide students with experience at evaluating, presenting, and discussing the primary research literature.

Nano Courses

A nano course refers to a short course, offered for 0.5 credits. They are intended to be special topics courses that capitalize on timely subject matter, visiting expertise, and/or highlight new developments in a field. Flexibility in scheduling and course leadership (i.e., not part of the permanent curriculum) will insure that these courses are nimble. Nano courses are only offered once. If a course is deemed to be worth offering regularly, it will go through the regular course review and approval process. More information about nano courses at OHSU can be found at the [School of Medicine Graduate Studies Forms & Policies](#) page.

Other Electives

Students may fulfil their elective requirements with courses outside of the BSN program. Courses within the Basic Science tuition model at OHSU include all School of Medicine graduate programs. There are some tuition-neutral courses available at Portland State University (PSU). Contact the Graduate Program Coordinator for the most recent OHSU-PSU Memorandum of Understanding for a list of available PSU courses. Courses outside of the tuition model may be considered for elective credit. In these cases, the student and mentor should develop a plan for payment of tuition. Students should obtain approval from the Graduate Program Director to ensure that electives from other programs can be applied to the program's elective requirement.

M5 – Qualifying Exam

Deadline

Pass must be awarded by the end of the first term of the student's 3rd year (usually the Fall quarter). Accordingly, the deadline for the oral presentation and oral exam is eight weeks before the end of the first term of the student's 3rd year in the program (approximately October 15th), to provide time to complete any potential remediation.

A student who has passed the Qualifying Exam will be eligible to advance to candidacy, contingent on approval of the Associate Dean for Graduate Studies.

The qualifying exam will include 3 parts:

1. Written proposal.
2. Oral presentation.
3. Oral examination.

The student is responsible for finding and reserving a room(s) for the presentation and exam for a total of 1.5 hours.

Passing all parts is necessary for passing the Qualifying Exam (see Assessment grading and remediation section).

Passing of each part is determined by the Qualifying Exam Committee.

Qualifying Exam Committee (QEC)

Formation

The student and mentor provide names of four potential QEC members and the proposal topic to the Graduate Program Advisory Committee (GPAC) at least 1 month before the written proposal is submitted. Within one week of receiving the information, the program director notifies the student of the approved QEC members.

Composition

There will be at least four members of the QEC, including a chair, selected by the Graduate Program Advisory Committee. The mentor will not be a member of the QEC.

Role of the QEC Chair

The Chair will write a report summarizing the QEC's evaluation of the student's performance on the written proposal, oral presentation of the proposal, and oral exam of the proposal. The report will include recommendations from the QEC committee on portions of the exam for which "conditional pass with remediation" was assigned with a timeline for completion of any remediation.

Written Proposal

Deadline

Submitted to the qualifying exam committee at least two weeks before the scheduled oral presentation.

Topic

Experimentally-based research

Format and Scope

It is anticipated that the written research-proposal can be adapted for subsequent submission to the NIH as a formal NRSA proposal. Accordingly, format will be: margins no smaller than 0.5 inch, Arial or equivalent font, no smaller than 11 point, and the proposal includes the following sections:

1. Abstract (max 30 lines of text).
2. Specific Aims (max 1 page), which includes hypothesis to be tested.
3. Research Plan (max 6 pages), which includes Significance (including a review of relevant literature) and Approach (including description of procedures, rationale for the studies, interpretation, analysis, and limitations/alternate strategies).
4. Vertebrate Animals and/or Human Subjects section as appropriate, following NIH guidelines for content.
5. Appendix 1, which includes a signed statement by the student that all writing in the written proposal is original and performed by the student. It also will document the involvement of the mentor at each stage (see Mentor Contribution). Finally, the student must acknowledge any and all intellectual discussions/writing assistance/research planning and/or other support that was received in the preparation of the written document and the oral presentation.

Assessment

1. Document is written in good English
2. Document conforms to the length & guidelines described in the Format and Included Sections above
3. Background is well-researched
4. Experimental design is rational, logical, and feasible

5. Proposed research significance is addressed

Oral Presentation

Format and Scope

1. Students will present their proposal in an open seminar that includes the qualifying exam committee.
2. Presentation time should be approximately 30 minutes, and it should include an acknowledgement slide to list the contributions from all individuals on the written and presentation portion of the exam.
3. Audience members will be encouraged to ask the student questions about the research proposed and the associated background literature.

Assessment

The presentation is assessed on:

1. Quality and clarity of visual aids
2. Organization and structure of the presentation
3. Student's ability to communicate specific aims, research significance, and the research plan clearly

Oral Examination

Deadline

Immediately following the oral presentation. Should last less than 1 hour.

Format and Scope

The qualifying exam committee tests the student's knowledge of the breadth and depth of their field as it relates to the research proposal. Attendance at the oral exam is limited to the qualifying exam committee and the student. Mentor(s) or other participants (lab members, fellow students, etc.) are not permitted to be present at the exam.

Assessment

The student is specifically questioned on:

1. Familiarity with the literature quoted in the written portion
2. General knowledge of their field
3. Ability to identify limitations of the proposed research, experimental methods, data interpretation
4. Ability to anticipate pitfalls and other problems and to come up with feasible solutions
5. Ability to understand significance of proposed research

Questions are drawn from the NIH grant review template and tailored to the student's research proposal.

Mentor Contribution

There are several stages to the research proposal: formulation of the research question, determination of the research design, practical details related to conducting the research (including training on procedures, creation of experimental procedures, conduct of procedures, analysis and interpretation of outcome data). The student can use this guideline to document the involvement of the mentor at each stage.

It is expected that the mentor will discuss research with the student, but that the student will decide on the central hypothesis for the proposal and will create an initial research protocol to test the hypothesis without feedback from the mentor. Once the student begins writing the document, the mentor can provide input on the written proposal, but only in terms of suggestions on areas that are unclear or experiments that would be unlikely to help a student's future NRSA. The input is provided verbally - the mentor can't make edits in the document. These expectations apply to both the original written document and to the potential remediation.

Limits on Assistance and Documenting Assistance

The student must write the text of the written portion, and create the slides for the presentation portion of the exam.

While formulating the central hypothesis themselves, students are encouraged to seek input into project design from faculty (but see limitation on mentor's contribution above), students, and colleagues.

Students should practice their presentation with other students and lab members and seek advice on logic, order, and style.

Students must acknowledge/list contributions from all individuals in Appendix 1 of the written proposal and in an acknowledgement slide during the oral presentation.

Grading, and Remediation

Each part is assessed separately as Pass, Conditional Pass with Remediation, or No Pass.

Remediation is possible for any part.

The student is allowed to remediate each part of the exam only once, and must complete and pass the remediation according to a QEC-specified deadline. An extension of the remediation deadline requires approval by the Graduate Program Director. Failure to pass the remediation may, at the discretion of the Graduate Program Director and BEHN faculty, result in termination of the student from the program.

M6 – Dissertation

Advancement to Ph.D. Candidacy

The requirements for advancement to candidacy for the Ph.D. degree in Behavioral and Systems Neuroscience are as follows:

- Successful completion of all required didactic coursework in the Behavioral and Systems Neuroscience core curriculum (grades of C or better),
- Successful completion of the elective coursework requirement (grades of C or better),
- Achievement of an overall GPA of 3.0 or greater
- Successful completion of [CONJ 650: The Practice and Ethics of Science](#)
- Successful completion of the reprint exam
- Successful completion of the Qualifying Examination

An [Advancement of Ph.D. Candidacy Form](#) must be sent to the Graduate Studies Office. Students cannot be recommended for advancement to candidacy if they are on academic probation or if an incomplete grade remains on their transcript. Students who advance to Ph.D. candidacy are deemed “senior” students in the department.

In accordance with the [Graduate Council By-Laws](#), a minimum of six full-time academic terms is required for the Ph.D. degree. In addition, students must be candidates for at least three academic terms prior to the final oral examination for the Ph.D. degree.

Dissertation Advisory Committee (DAC) Formation

The [Request for Dissertation Advisory Committee \(DAC\) Form – PhD Programs](#) should be sent to the Graduate Program Director within one term after advancing to Ph.D. candidacy. Detailed instructions are on the [Graduate Studies Forms & Policies Page](#) – Dissertation Advisory Committee (DAC) Guidelines. Note: since a non-departmental reviewer for the Oral Examination Committee later on is required, including one graduate faculty who does not have primary appointment in BEHN on the DAC should be considered.

Ph.D. Research Proposal

A written Ph.D. Research Proposal must be submitted by the student and approved by the DAC by the end of the third year of training (that is, before the first day of class for Fall quarter of the fourth year). In general, it is expected that the proposal will contain a brief review of the relevant scientific literature, a statement of the rationale or hypothesis for the project, a description of proposed methods including the approach to statistical analysis, a discussion of the expected outcomes and their significance, and references. Although the length and format for this proposal may vary depending on the nature of the project, students are strongly encouraged to adopt the format of the Research Plan in the standard NIH research grant application or NRSA application. A majority of the DAC members must approve the research proposal. DAC members will indicate their approval of the proposal by signing the [Behavioral and Systems Neuroscience Ph.D. Proposal Approval Form](#). The student must submit the signed form to the Graduate Program Director.

The student may proceed with their project after the Ph.D. proposal is approved by the DAC. In projects involving a complicated series of experiments, or in cases where later experiments depend on the outcomes of initial experiments, the Committee should require one or more follow-up meetings to review preliminary findings and/or to approve later stages of the project (see [Meeting Summaries](#) below). When preliminary findings indicate that a change in the direction or focus of the project is required, the student must re-convene the DAC to obtain its approval for proposed changes.

Dissertation Credits

Ph.D. candidates are required to register for at least 5 credits of BEST 603. If a graduate student fails (i.e., receives a grade of No Pass) a term of dissertation credits, the student is immediately placed on academic probation. The student is required to obtain a passing grade in the next term (and subsequent terms) of dissertation credits or the student may be dismissed from the graduate program. The student (in consultation with their mentor) is to schedule a DAC meeting immediately upon receiving a failing grade on dissertation credits in any one term. The DAC meeting must take place within two weeks of receipt of the failing grade on the dissertation credits. The mentor and DAC will suggest a course of action that the student must follow to correct their performance in their research program.

Meeting Summaries

Students must meet with their DAC in person at least every six months. Additional meetings may be scheduled by the student or by the members of a DAC to ensure the student progresses towards their Ph.D. degree. See also [Dissertation Advisory Committee \(DAC\) Guidelines](#) and [DAC/TAC Meeting Summary](#). Fill out Meeting Summary Form after each DAC meeting and send it to Graduate Program Coordinator

Behavioral and Systems Neuroscience Dissertation Approval

At least six weeks prior to the oral examination, the student must send a copy of the dissertation document to all members of the DAC. At least four weeks prior to the oral examination, a majority of DAC members must approve of the dissertation document before it is submitted for the oral examination. DAC members will indicate their approval of the completed project and dissertation document by signing the [Behavioral and Systems Neuroscience Dissertation Approval Form](#) and marking **Approve** or **Approve with Modification**. A majority of signatures accompanied by marks under **Reevaluate after Modification** will require modification of the document and committee reevaluation. The student must submit the signed form to the Graduate Program Director for final approval by the Department Chair.

Oral Examination

Students should reference the [Guidelines for completion of degree - Doctor of Philosophy](#)

Application for Degree

The Office of the Registrar requires that the Application for Degree be completed and is required in the Registrar's Office one term prior to completing degree requirements. The online Application for Degree is in the [Student Information System](#).

Formation of the Oral Examination Committee (OEC)

The OEC must (1) include no fewer than four members of the Graduate Faculty who do not all have primary appointments in the same department or institute, (2) include at least one member who is not a member of the student's DAC, and (3) be chaired by a member of Graduate Faculty. The student's mentor should serve on the committee but may not serve as Chair. The Request for Oral Exam form is on the [School of Medicine Graduate Studies Forms & Policies](#) page and must be submitted to the School of Medicine Graduate Studies office no later than 4 weeks before the oral examination.

Preparation

All members of the OEC must receive the following at least two weeks prior to the oral examination:

- An unbound copy of the dissertation from the student.
- A copy of the approved *REQUEST FOR ORAL EXAMINATION* form, which is forwarded to the Chair by the Graduate Studies Office upon approval of the Request for Oral Examination.
- A copy of the "Instructions for Members of the Oral Examination Committee" which is forwarded to the Chair by the Graduate Studies Office upon approval of the Request for Oral Examination.

Students must be registered for at least one hour of dissertation (BEST 603) credit during the term in which the Oral Examination occurs. Students may not take the oral examination if they are on academic probation or if an Incomplete (I) grade remains on their transcript.

Dissertation Seminar

The oral examination must be held on campus and shall be open to the public. It is the responsibility of the graduate student to set the date, time, and place of the oral examinations and to post notices on campus.

Finalizing Ph.D. Requirements

Reference the Guidelines for completion of degree - Doctor of Philosophy for a full list of requirements. In general, students should plan to make corrections to the dissertation, submit the dissertation to the library, and complete the Survey of Earned Doctorates.

Course Waivers

In accordance with the [Graduate Council By-Laws](#), students may petition for transfer of graduate credit from another accredited institution toward completion of degree requirements in the Department of Behavioral Neuroscience. Only credit from formal didactic courses (not research or independent study) completed within the last 7 years in which the student earned a grade of B or better are considered. Students must submit their petition (including official transcripts) within the 1st year after matriculation and the total number of transfer hours cannot exceed 45. In general, transfer credits are applied toward elective requirements. All petitions for transfer of graduate credit must be submitted to the Graduate Program Director who will present the petition for approval at the next scheduled faculty meeting. Approved petitions will then be forwarded by the Department Chair for final consideration by the Graduate Council. Requests for waiver of specific didactic course requirements must be approved by the Director of the equivalent OHSU course and by the Graduate Program Director.

Academic Progress

The School of Medicine requires that graduate students maintain an overall 3.0 grade point average in coursework (A=4; B=3; C=2; D=1). Courses graded on a P/NP basis do not contribute to a calculation of the grade point average. However, an NP in non-graded courses places a student on academic probation. A student can only be on academic probation for one quarter. Failure to alleviate academic probation within next quarter results in student's dismissal from the program, at the discretion of Graduate Program Director. Students should review the [Graduate Council By-Laws](#) for more information regarding GPA and academic probation.

Training in the Responsible Conduct of Research

The National Institutes of Health requires continued ethics training for all trainees, fellows, participants, and scholars receiving support through any NIH training, career development, research education, and dissertation research grant ([NOT-OD-10-019](#)). To meet this requirement, all graduate students are required to:

- Complete CONJ 650 The Practice and Ethics in Science during their first year
- Behavioral and Systems Neuroscience offers a 1 credit Ethics course every three years. After the first year, all students are required to take this course when it is offered.

Annual Student Evaluation

By June 20th of each year, all students must submit the [Graduate Student Annual Progress Report](#) summarizing their activities during the past year and their plans for future study. This report is a “living document”-type form that gets expanded every year and serves as the focal document for the annual student evaluation by the BSN Program Director. The Program Director can solicit additional documents (for example, the student’s NIH Biosketch and/or input from the mentor) to help evaluate the student’s progress. Following a meeting with the Graduate Program Director, the student routes the signed form to Graduate Program Director, Graduate Program Coordinator and the SOM Graduate Studies Office.

Terminal Master’s Degree

Students completing the Ph.D. degree in Behavioral and Systems Neuroscience are not required to complete an M.S. thesis. However, students admitted to the Ph.D. program may be allowed to complete requirements for the M.S. degree if they wish to withdraw from the Ph.D. program before completing all requirements for the Ph.D. degree. Students must satisfactorily complete the required coursework in the Ph.D. program in order to become eligible for the M.S. degree. The request to transfer to a terminal Master’s Degree requires approval by the BEHN faculty and support by the mentor. The M.S. research project must be approved by a Thesis Advisory Committee composed of at least three members of graduate faculty (including the mentor). At least two members of the Committee must have appointments in the Department of Behavioral Neuroscience. Students may request permission to replace one of the committee members by a recognized scholar who is not a member of graduate faculty; see [Graduate Council By-Laws](#). Composition of the Advisory Committee must be approved by the Graduate Program Director, Department Chair, and Associate Dean for Graduate Studies. Typically, the Masters project will consist of one or more experiments that can be completed in about one year. The thesis document must be prepared according to the [Guidelines for completion of degree - Master's with thesis](#).

The primary responsibility of the Advisory Committee is to assist the student in identifying a research project whose scope meets or exceeds Graduate Council standards at the M.S. level. A majority of the Advisory Committee members must also approve the thesis document before it is submitted for the Oral Thesis Examination. Students are strongly encouraged to solicit comments on draft versions of the thesis, but members of the committee must not engage in extensive editing or rewriting of the document. Advisory Committee members will indicate their approval of the completed project and thesis document by signing the [Behavioral and Systems Neuroscience Masters’ Proposal Approval Form](#). The student must submit the signed form to the Graduate Program Director for final approval by the Department Chair. The department's approval of the thesis for submission to the Graduate Council for oral examination does not imply that additional changes will not be required in the project or document. Final approval of the project and document is contingent on the recommendations of the Oral Thesis Examination Committee. With the advice of the student and mentor, the Graduate Program Director will recommend at least three members of the graduate faculty (including the mentor) who do not all have primary appointments in the same department or institute for inclusion on the Examination Committee. Moreover, the Committee must include at least one member who was not a member of the student's Thesis Advisory Committee. Students may request permission to replace one of the Committee members

by a recognized scholar who is not a member of the graduate faculty; see [Graduate Council By-Laws](#). Final approval of the Examination Committee is given by the Associate Dean for Graduate Studies.

Visit the [School of Medicine Graduate Studies forms page](#) for Guidelines for completion of degree - Master's with thesis.

Students must present a public seminar describing the M.S. research project, pass the oral examination, edit the thesis document to the satisfaction of the Examination Committee, and meet all other degree requirements specified by the [Graduate Council By-Laws](#). The oral examination typically addresses issues related to the thesis project, but is not limited to the content of the thesis document.

Questions related to other aspects of the student's graduate education should be anticipated. The public seminar is an important component of the oral thesis examination and the candidate's performance is evaluated by the examination committee in the context of determining the general preparedness of the candidate to receive the degree.

A student who fails the Oral Thesis Examination may petition the department for the opportunity to be reexamined. Such petitions must be submitted in the form of a letter to the Department Chair within 2 weeks after the exam. The petition letter should include an explanation of any circumstances that may have adversely affected the student's performance on the exam. Moreover, the letter should provide a rationale for expecting a different outcome upon reexamination. The student's request is formally considered at a meeting of the department's graduate faculty within one month of the receipt of the petition letter. The student receives written notice of the department's decision within three days after the meeting. In case of reexamination, the Department Chair may recommend changes in the composition of the proposed Examination Committee. In accordance with the [Graduate Council By-Laws](#), a student whose petition for reexamination is denied by the department may appeal to the Graduate Council.

Ethical and Professional Behavior

Graduate students are expected to maintain high ethical standards. Graduate students should demonstrate honesty in all aspects of research activities. All graduate students are required to take courses concerning ethics and science. Student should continue to learn about and avoid sources of error in scientific research. It is essential that student do not misrepresent scientific findings or misappropriate credit. Students should show cooperation, responsibility, and respect in interactions with other students and faculty. Students should be considerate of the cultural and individual diversity of all individuals.

Students who are involved in unethical or unprofessional conduct such as cheating, misrepresentation of research findings, plagiarism (failure to credit the original author), or disruption of the learning process are subject to disciplinary action including dismissal from the program.

Students observing unethical behavior by students, faculty, or others on campus are obligated to bring these transgressions to the attention of the appropriate person.

See the [OHSU Code of Conduct](#) for further information.

Graduate Student Stipends

"The stipends provided to students offset the cost-of-living during the period of training and are not considered equivalent to salaries or other forms of compensation provided to individuals supported on research grants." NIH

All full-time, active, Behavioral and Systems Neuroscience Ph.D. graduate students can expect to receive a stipend in accordance with the School of Medicine Graduate Student Stipend Policy.

Please refer to the [School of Medicine Graduate Student Stipend Policy](#) for more information.

Travel to Scientific Conferences

Students funded through training grants will be eligible for travel reimbursement in accordance with the training grant's travel allowance. Travel allowances are renewed annually on the training grant appointment date.

For students funded by other mechanisms (e.g. NRSAs, mentor-funded), travel reimbursement up to \$1,000 per year should also be available through your award or through your mentor. Please make sure your mentor approves your travel and identifies the appropriate funding source prior to making any travel arrangements.

Written Request Requirement

First year students are required to submit a written request for travel funds to the Graduate Program Coordinator at least one month in advance of the proposed travel. The request should include a brief description of the purpose of the trip and estimated costs for transportation, hotel, meals, lodging, registration fees, and other related costs. Late requests are not considered. Include cost sharing information (e.g. resources to be provided by your mentor) if available. All direct payments and reimbursement follow OHSU Central Financial Services policies and procedures.

International Travel

All OHSU graduate students are required to submit an [International Away Elective Form & Student International Travel Waiver of Liability form](#) before they travel outside the U.S. on OHSU-related business.

Teaching and Educational Outreach Activities (BEHN)

The program does not require students to participate in teaching in order to meet degree requirements. However, the faculty recognizes that teaching may be an important part of a student's future career goals, and they strongly support participation in activities that strengthen teaching-related skills. For example, the required departmental seminar (BEST 607) is designed, in part, to help students develop and refine their oral presentation skills. In addition, there are many educational outreach opportunities that involve interacting with grade school students and other members of society.

Given the program's emphasis on coursework and research training during the first few years, the department does not permit students to serve as course instructors during that time. Accordingly, prior to advancing to Ph.D. candidacy, students interested in teaching should, in consultation with their faculty mentors, limit such activities to occasional guest lectures and classroom or laboratory demonstrations. Upon advancing to candidacy, students interested in obtaining more formal or extensive teaching experience may wish to seek such opportunities at one or more of the local colleges and universities. The Graduate Program Director and other program faculty can provide information and assistance in identifying such opportunities, including opportunities to participate in BEST 650 (teaching practicum) which provides a more directed teaching experience.

Although teaching and outreach activities are encouraged students must consult with their faculty mentors before making any commitment to outside teaching or outreach activities. Agreement of the faculty mentor is documented by an email to be kept in the student's file. Decisions to participate in such activities must always be tempered by the need to meet formal program requirements in a timely manner, to achieve excellence in research (e.g., publications), and to complete the Ph.D. dissertation.

Time Constraints

The time period from matriculation to granting the Ph.D. degree is limited to 28 consecutive terms (seven academic years) unless waived for a leave of absence or family leave policy.

For more information, please consult the [Graduate Council By-Laws](#).

Sick Leave, Vacation, and Leave of Absence

Please consult the Vacation & Sick Leave Policy as well as the Academic Adjustment Policy for New Parents located on the [Office of Graduate Studies forms page](#).

Accommodation

Our program is committed to all students achieving their potential. If you have a disability or think you may have a disability (physical, learning, hearing, vision, psychological) which may necessitate a reasonable accommodation, please contact the Office for Student Access at (503) 494-0082 to discuss your needs. Because accommodations can take time to implement, it is important to have this discussion as soon as possible. All information regarding a student's disability is kept confidential in accordance with relevant state and federal laws.

Dismissal

Students may be suspended or dismissed from the graduate program only by the Dean of the School of Medicine. See Article X, Section B of the [Graduate Council By-Laws](#) for more information.

Grievances

Students have the right to grieve matters related but not restricted to the following areas: rights of authorship on scientific publication, student-mentor relationships, laboratory safety concerns, and grading policies. Students may not grieve disciplinary action, grades (including failure of the qualifying exam or failure of the oral thesis/dissertation exam), dismissal or other action taken under the Professional Conduct Policy. See Article XI of the [Graduate Council By-Laws](#) for more information.

Exceptions

Individual student requests for waiver of a requirement specified by the departmental guidelines must be approved by the faculty, Graduate Program Director, and Department Chair. In the case of requirements specified in the Graduate Council By-Laws, it may also be necessary to obtain approval from the Graduate Council and Associate Dean for Graduate Studies.