Behavioral Neuroscience Program
2019-2020 Program Requirements
Graduate Studies Curriculum and Policies

I. General training, First-Year Report, Master's Thesis

The curriculum of the Behavioral Neuroscience Program allows the student to develop a thorough understanding of the general foundations of this large and diverse field of research, and to acquire in-depth knowledge in a wide range of specific research topics. In addition to the required core courses and the elective courses and seminars offered by Behavioral Neuroscience, other departments (including Neuroscience, Evolution, Ecology, and Organismal Biology (EEOB), Biochemistry, Pharmacology, and Molecular, Virology, Immunology and Medical Genetics) offer additional courses and seminars, allowing the student to have a richness of experience that very few contemporary universities can match. Beyond the basic Behavioral Neuroscience program core requirements summarized below, selections of additional courses and the stage at which they are taken are matters of discretion for the student in consultation with his/her graduate advisor. As graduate students in the Behavioral Neuroscience program are intensively involved in research from the start, the number of required courses is kept to minimum, so elective courses can be scheduled with more flexibility.

Typically, first-year students are assigned a research problem as soon as they arrive. First-year projects are designed to introduce the student to an experimental issue, its associated literature, as well as a limited group of experimental procedures which can usually be mastered relatively quickly. As students progress, they are introduced to increasingly demanding techniques and to problems that require increasingly sophisticated methodological analyses. Each student is required to submit a written report summarizing their research project (First-Year Report) by June 1st to their advisor and to present this research to the faculty and students of the Behavioral Neuroscience program during The Advanced Seminar in Behavioral Neuroscience. Typically, the student's first-year research project serves as the basis for a larger research project that will form the thesis for the master's degree. All of the research is conducted under the direct supervision of a faculty member, aided by postdoctoral fellows and advanced students who are thoroughly familiar with the methods that the first-year students are employing.

The master's degree (M.A.) is expected to be earned by the end of the student's second year. It requires completion of the core courses and an acceptable thesis. In an acceptable thesis, the student will demonstrate insight into a scientific problem and all the phases of the scientific work. This includes formulating a testable hypothesis, literature review, data collection and analysis, and presentation and critical assessment of the results. The Master's thesis project should make a contribution to work of the

lab. Ideally the data from the Master's project would lay the foundation for the PhD thesis and would be incorporated into a manuscript but this is not required.

Students in the program are strongly encouraged to gain experience in teaching undergraduate students. The teaching experience usually occurs following completion of the master's degree. Historically, our students have found that experience to be of great value in their preparation for the Candidacy Examination (below), and to increase their professional competitive standing after graduation. Students can also enroll in a non-degree program within the Department which provides a Department-based Certificate of Training in the Teaching of Psychology.

In addition to the Behavioral Neuroscience major area of specialization, a graduate student may have a minor area of study from another area within the Psychology Department (e.g. Cognitive Science) or outside of the Department (e.g. Neuroscience). Requirements for a minor are determined by the unit offering the minor. The Behavioral Neuroscience area does not offer a minor area of study, nor requires one for its graduate students.

II. Candidacy Examination

After attaining the M.A., the student's next program landmark is the Candidacy Examination for admission to candidacy for the doctorate. It is recommended that the examination be taken at the end of the 3rd year but should be taken no later than the first semester of the academic year in which the student proposes to complete the program. The majority of the students complete the program after five years of study.

Completion of the candidacy exam requirements in Behavioral Neuroscience is composed of 2 elements:

1) A written research proposal with specific aims for the thesis project in the style of an F31 fellowship application. Format for the F31 research proposal and specific aims (available here: https://grants.nih.gov/grants/guide/pa-files/PA-19-195.html) will be followed with the following exceptions:
a) The research proposal will include 1 aim that proposes an experiment or set of experiments using techniques beyond the current expertise of the student or the student's thesis lab.
b) The research proposal will be a maximum of 8 pages in length, using NIH guidelines for font, margins and spacing. The Specific Aims is a single page in addition to this 8 page Research Proposal.
c) The student will review their Specific Aims page with each member of the committee and receive approval before writing the research proposal. The final research proposal will be written independently and a final version to be defended will be sent to the committee.

2) An oral defense of the proposal and examination of general knowledge relevant to the proposal. In addition to defending the specific proposed experiments, students should be prepared to answer general questions relevant to all required coursework and to their research area, including experimental design and statistical testing.

The oral examination takes place before the full Candidacy Examination Committee and should be scheduled approximately one week after the written exam. The oral examination, which lasts approximately 2 hours, includes a defense of the research proposal as well as questions related to the written examination.

All aspects of the examination process adhere to the rules specified in the Graduate School Handbook and Department Graduate Program Handbook.

III. Dissertation

Following completion of the Candidacy Examination, a student ordinarily will take no further formal courses, but rather is expected to devote full time to dissertation research. In the fourth year, each student will form a dissertation committee. The committee is composed of the student's advisor and at least one additional faculty member of the Behavioral Neuroscience program, and other faculty as specified in the Graduate School Handbook and Department Graduate Program Handbook. At least 9 months, and preferably 12-18 months prior to the Final Oral Examination, a dissertation proposal meeting will take place in which the student will present the specific details of the experiments that will be included in the dissertation. This proposal must be approved by the Dissertation Committee. The Final Oral Examination is conducted in accordance with the rules as specified in the Graduate School Handbook and Department of Psychology Graduate Program Handbook.

IV. Coursework

The curriculum is comprised of two general components. First, "Core Courses" are those courses that all Behavioral Neuroscience students are required to take, regardless of specific area of interest. Second, students are required to take a minimum of three courses/seminars from the list of "Topical Seminars/Courses." These courses cover a wide range of areas of research in Behavioral Neuroscience as they are represented by the faculty members of the program. Additional coursework will be tailored to the individual student in consultation with the advisor.

Core Courses:

Neurosc 7001, Foundations of Neuroscience I (Neurosc 7200.01, Anatomy Lab is optional)
Neurosc 7002, Foundations of Neuroscience II (Neurosc 7200.02, Neuro Lab 2 is optional)
Psych 6810 and Psych 6811, Statistics in Psychology
Psych 5898, Seminar in Behavioral Neuroscience
Psych 7898, Advanced Behavioral Neuroscience Seminar[1]

Topical Seminars/Courses:
Psych 5613H, Biological Psychiatry
Psych 5614, Cognitive Neuroscience
Psych 6806, Neurobiology of Learning and Memory[2]
Psych 6808, Sex Differences in the Brain and Behavior[2]
Neurosc 5644, Behavioral Endocrinology
Psych5602 Behavioral Genetics
Psych5622 Development of Brain and Behavior
Neuro 7500 Molecular Virology and Immunology
Neuro 7050 Neurobiology of Disease
Psych 5600 Psychobiology of Learning

1) This serves as Behavioral Neuroscience's program course. It is offered annually and Behavioral Neuroscience students are expected to participate throughout their graduate career. In this course, all students are required to present their research to other students in BN and the BN faculty. This course also includes presentations by invited speakers and serves to educate students about issues related to ethics, scientific conduct, grant writing, and professional development.
2) These courses are in the process of being approved for the course bulletin.

IV. Evaluation

Three levels of authority and information guide the training of graduate students enrolled in the Behavioral Neuroscience training program within the Department of Psychology at The Ohio State University. These are: (1) all the official rules governing all graduate students at the University, as specified in the Graduate School Handbook, published by the Graduate School of The Ohio State University; (2) all of the rules as specified by the Department of Psychology Graduate Program Handbook; and (3) additional requirements as specified by areas of specialization within the Department. The present document specifies the current requirements for Behavioral Neuroscience graduate students.

Focus of evaluation. Each student will be evaluated formally and in writing each year, typically after the spring semester. The focus of the evaluation, per Departmental guidelines, will be on: (a) the student's rate of progress toward achieving a graduate degree; (b) an assessment of the student's strengths and weaknesses; and (c) the determination of the student's status in the program. The evaluation may also include comments on excellence, recommendations for continued development and progress, or if the

student is not meeting expectations, clear communications to that effect accompanied with requirements for remediation.

Roles and Responsibilities of Area, Timing of Evaluation, Domain of the Evaluation, and Notification. At the end of the Spring semester (no later than June 1st), the Behavioral Neuroscience area coordinator will request that each graduate student provide a "Progress Report" to the Behavioral Neuroscience faculty, which should include an updated vita as well as a written accounting of all academic research, coursework, teaching and service activities accomplished during the preceding year. This Progress Report should be submitted online through the Department's "Student Activity Report" website. A statement on the student's progress toward their degree and her/his expectations for the upcoming year should also be included. All Behavioral Neuroscience faculty will then meet to discuss each student's dossier, research, classroom, laboratory, teaching, and service activities, professional development and ethical practices, and timeliness of progress in the program. The evaluation will culminate in a written letter to the student, based on all area faculty input, and signed by the Behavioral Neuroscience area coordinator.

In addition to the annual evaluation, a comparable review and evaluation of a student's status will be considered by the area faculty under the following conditions:
1. a written request from the advisor to the area coordinator;
2. a written request from two or more area faculty to the area coordinator; or
3. the lack of an available advisor for the student.

Such a review will be based on the standards outlined below. If the student's performance is evaluated as inadequate by a majority of the faculty, the classes of outcomes will be the same as those described for the annual evaluation process (see below). If an advisor is not available at this point, either an interim advisor will be assigned, or the area faculty as a whole with a designated chairperson will serve in a collective advisory role prior to resolution of the student's status.

Lack of Reasonable Progress/Warning. The purposes and uses of the formal evaluation letter are to inform students whether she or he is making adequate progress, to guide efforts for improvement, and for administrative action related to financial support and student retention. In those rare instances in which a student is not making adequate progress per the standards described below, the letter will include the necessary steps that must be taken to return to good standing in the program. The letter will also include information about when the student should be sent a lack-of-progress warning, the penalties/implications for being on warning status.

Coordination with the Graduate School, and Access. When the formal evaluation letter contains a warning assessment, the letter will be forwarded by the area coordinator to the Chair of the Graduate Studies Committee for further action per guidelines in the Departmental Graduate Program Handbook

and the University's Graduate School Handbook. Thus, the Behavioral Neuroscience area will initiate procedures for formal warnings and sanctions, but the formal warning of students or the denying of registration is done only through the Graduate School and involves the Chair of the Graduate Studies Committee. Therefore information in the letter, or a copy of the letter itself, may be made available by the area coordinator to others at the University on a need to know basis (e.g., in consideration for financial support, for administrative actions). In most instances, however, the letter is usually seen only by the student and Behavioral Neuroscience faculty.

Standards. Successful continuation in the Behavioral Neuroscience area of specialization program requires the maintenance of good standing in the Graduate School of The Ohio State University, and timely completion of all Graduate School requirements. Students must continue to make satisfactory progress toward completion of their formal course requirements, including the program core, advanced coursework, and other coursework prescribed by the advisor in consultation with the student. Given developments in the field, availability of courses, and other contingencies, the curriculum may change from time to time. Also, specific required courses may vary from student to student, based upon that student's background and interest.

Research is central to the Behavioral Neuroscience enterprise. Students therefore must demonstrate they have acquired adequate training in research skills, including technique and design, understanding of the current research literature, and an ability to communicate results both orally and in writing. Because these abilities cannot be adequately developed in didactic coursework or assessed in brief examinations, students will be required to participate in, and will be evaluated on their performance in varied research and research-related activities throughout their tenure in the program. Meeting these research requirements and standards are as critical to successful completion of the program as are coursework curricula and Graduate School criteria. These requirements are provided to all graduate students currently enrolled in the Behavioral Neuroscience program.

Appeals. If a student contests the judgment of Behavioral Neuroscience faculty, the student must express his or her disagreement with the action of the program by letter to the area coordinator, and may also request a personal meeting with the faculty. On such written notice, the faculty will gather critical information and reconsider the student's position. The action of the area and the supporting documentation will then be forwarded to the Graduate Studies Committee. The student always has the option of discussing the action with the Chair of the Department.

Grievance Procedure. The Behavioral Neuroscience area appeals process is designed to be consistent with the departmental grievance procedure described in the Departmental Graduate Program Handbook (see section VI.B.10). In brief, to resolve disagreements, the Department encourages first, informal discussions with pertinent individuals. If the disagreement is not resolved, the student may then send a written request for a grievance hearing to the Chair of the Department. If the disagreement

is still not resolved, the student may present the grievance to the Dean of the Graduate School per Graduate School guidelines.

Documentation and Distribution of Practices. All faculty and students in the Behavioral Neuroscience area will receive a copy of the above evaluation policy at the time individuals join the program. The Graduate Studies Committee of the department and the Chair of the Department will maintain a current set of these documents as well, and ensure that Behavioral Neuroscience policies and procedures are in compliance with departmental policies.