NEUR 99: Senior Research and Senior Honors in Neuroscience

Information and Timetable/Deadlines

Petition (detach, complete, and return to Neuroscience office)

2014-2015 Academic Year –

Senior Research Program (NEUR 99) and Senior Honors Coordinator is the Neuroscience UAH:

Dr. Paul Miller, Volen 252; x62890; pmiller@brandeis.edu
NEUR 99: SENIOR RESEARCH AND SENIOR HONORS IN NEUROSCIENCE

The Senior Research Program is designed to provide Neuroscience concentrators with an opportunity to engage in a two-semester long independent research project and to obtain both course and elective credit for this research. NEUR 99 is open to all seniors concentrating in Neuroscience, regardless of GPA. Neuroscience concentrators who have a distinguished academic record and who enroll in NEUR 99 Senior Research may also be eligible for Honors in Neuroscience.

Selection of Senior Research Sponsor. The Neuroscience Concentration recommends that students begin to plan for Senior Research during sophomore or junior year. Many students find it beneficial to spend the summer before their senior year working in the Sponsor’s lab. Research interests of Neuroscience Concentration faculty can be found on the website http://www.bio.brandeis.edu/pages/faculty. Students should contact possible faculty Sponsors and seek the Sponsor’s agreement to accept you for senior research in their lab.

Enrollment in Senior Research. Having secured the agreement of a Neuroscience faculty Sponsor, a student petitions to enroll in Senior Research (NEUR 99). The student completes the attached petition and makes an appointment with the Neuro Senior Research coordinator (who is the Neuro UAH this year) by the deadline specified in the timetable below. The student also needs to enroll in NEUR 99: this will happen automatically after the petition is handed in to the Neuro UAH.

Course requirements for 1st semester of Senior Research (usually, NEUR 99a).
At the completion of the first semester of NEUR 99, students will write a paper that reviews the literature in the scientific field pertinent to their research and includes a bibliography of cited papers. A copy is given to the faculty research sponsor and a .pdf sent to pmiller@brandeis.edu and qchu@brandeis.edu. Some suggestions for the paper:

In a minimum of 8 pages of double-spaced text, this review should describe and discuss the scientific literature that is important for the problem being investigated. If there are models or hypotheses, the review should describe what they are. What evidence supports or negates the models. What is the specific question or problem being explored, how will it be solved. The review should include references in the text and provide a bibliography containing those citations [the bibliography does not count toward the 8 pages of text]. This review will be useful when writing the introduction to the senior thesis.

Course requirements for 2nd semester of Senior Research (usually, NEUR 99b).
A formal Senior Research Thesis is required of all students enrolled in NEUR 99. The thesis should include an Abstract of not more than 250 words; an Introduction that presents a reader with adequate information about the relation of the research problem to current knowledge in that area; a Materials and Methods section in sufficient detail that someone else could repeat the work; Results; a Discussion that includes a critical evaluation of the results, possible sources of error, and significance in relation to other findings; and a Bibliography of cited references (in the style used by the journal Neuron). Copies of the thesis are to be given to the research Sponsor and the Neuroscience office (to qchu@brandeis.edu as a pdf) by the deadline specified in the timetable (below).

Candidacy for Senior Honors. The student enrolls in NEUR 99 and completes the petition for NEUR 99 Senior Research including the section asking to be considered a candidate for Honors.

Senior Neuroscience concentrators who enroll in NEUR 99 and have a grade point average of 3.30 or better in all courses offered for the concentration are automatically eligible for Honors. Senior Neuroscience concentrators who enroll in NEUR 99 and have a grade point average between
3.0 and 3.3 in all courses offered for the concentration and who have completed (with a grade of B or better) one 100-level elective course for the concentration are also eligible for honors (NOTE: BCHM 100a, NBIOL 140b do not count as 100 level courses for this purpose.)

In addition to writing an Honors thesis on their work (in the format outlined above for the Senior Research thesis), Honors candidates must also give an oral presentation and defense of their work to their Faculty Research Committee, which is composed of the research Sponsor and two other Neuroscience Concentration faculty members. Senior Research Committees are assigned for each Honors candidate before the Honors thesis is due, and students are scheduled to give their oral presentations about a week later. The oral presentation and defense lasts for one hour and should include an introduction that shows why the work was undertaken, what goals were set, the results obtained and why they are significant. Presentations may include the use of a blackboard, slides, Powerpoint, etc. Many questions will be asked by the Research Committee during this presentation, so plan on a 30-35 minute talk.

If the Honors thesis, oral presentation/defense, and GPA warrant, the Research Committee may recommend to the Neuroscience Concentration faculty that the candidate graduate with Honors, High Honors, or Highest Honors in Neuroscience.

**NEUR 99 TIMETABLE FOR 2014-2015 ACADEMIC YEAR**

**FALL SEMESTER, 2014**

**September 5, 2014:** Enrolment deadline  
To enroll in NEUR 99a, meet with the NEUR 99 Coordinator (who is currently the Neuroscience UAH) and bring the completed NEUR 99 petition (pages 4-5).

**December 4, 2014, 3pm:** Deadline for Fall thesis submission.  
For any student who is an honors candidate and who is defending in the Fall, thesis is due to the honors committee.

**December 9, 2014:** Defense date for Fall Honors candidates.  
**December 10 and 11, 2014:** Backup defense dates

**December 18, 2014, 3pm:** Deadline for submission of NEUR 99a review. For all those not defending in the Fall: submit one copy of your review paper on your field of research to your faculty sponsor and send an electronic copy to pmiller@brandeis.edu and qchu@brandeis.edu.

**SPRING SEMESTER, 2015**

**January 16, 2015:** Enrollment deadline.  
To enroll in NEUR 99b, meet with the NEUR 99 Coordinator and bring the attached NEUR 99 petition with you (pages 4-5).

**April 23, 2015, 3pm:** Deadline for thesis submission for Spring Honors candidates.  
**April 29, 2015:** Defense date for Spring Honors candidates.
April 30 - May 1, 2015: Backup defense dates.

May 7, 2015, by 3pm: Final version of Honors Thesis due to pmiller@brandeis.edu and qchu@brandeis.edu in pdf format with any required revisions for honors candidates also sent to their Honors Committee.

Students who are not doing Honors: senior research thesis is due by May 9, 2015 at 3pm.
PETITION FOR NEUR 99 SENIOR RESEARCH AND SENIOR HONORS IN NEUROSCIENCE

Bring this form to the Neuroscience UAH (Paul Miller, Volen 252) by September 5, 2014

Student’s Name: ___________________________________________________________
(Print)     First     Last

Telephone #: ___________________________ Mailbox #: __________________________

Email: _____________________________________

A. Petition to enroll in Senior Research (NEUR 99)

I will take NEUR 99 with: ___________________________________________________
(Print the Name of your Neuroscience Research Sponsor)

Title of research project:

Brief synopsis of proposed research:

I understand that taking Senior Research (NEUR 99) requires that I submit both a written review (1st semester) and a senior thesis (2nd semester) to my research Sponsor by the deadlines specified on the timetable for this academic year:

____________________________________

Student’s signature
B. _________I request to be a candidate for Honors in Neuroscience [check this if applicable]

Eligibility for Honors will not be determined until the conclusion of the senior year and includes a Senior Honors thesis, an oral presentation/defense, and a GPA requirement.

If your GPA for all courses offered toward the Neuroscience concentration is less than 3.3 but higher than 3.0, you will still be eligible for Honors if you take a 100-level Neuroscience course and earn a grade of B or better. (Note: BCHM 100a and NBIO 140b do not count for this purpose as 100-level elective courses).

List the 100-level course you plan to take towards Honors in Neuroscience:

_______________________________________
________________________________________

Student's signature

C. To be completed by the Research Sponsor

I accept this student for NEUR 99 (Senior Research) and, if applicable, as a candidate for Honors in Neuroscience. I will provide appropriate safety instructions as required for each hazard (checked off below) that may be encountered by this student while conducting research in my laboratory.

________________________________________
Sponsor's signature

If the research to be conducted by this student involves any of the potential hazards listed below, please put a check next to that hazard:

_____ radiation or radioactivity

_____ chemical hazards, e. g., drugs, poisonous or explosive materials, carcinogens

_____ physical hazards, e. g., high voltages, pressure, or temperature; intense laser sources

_____ microbiological hazards, e. g., infectious or disease-producing bacteria, viruses, etc.

_____ recombinant DNA or genetic engineering

_____ use of or exposure to human tissues/cells/fluids/samples, etc.

_____ other (please specify)________________________________

Does the proposed work involve the use of human subjects:  yes or no [circle one]

If yes, I will insure that this project receives human subjects approval from the University Committee on Protection of Human Subjects in Research (IRB) prior to beginning the work.

________________________________________
Sponsor's signature