

# **Educational Neuroscience PhD Program Structure & Requirements**

## **Prospective Ph.D. Students**

Applications to the Educational Neuroscience Program are processed through the same mechanism as the Systems and Cellular/Molecular Neuroscience Program tracks. Applications will be reviewed by a committee of Neuroscience faculty and as such successful applications will have to meet the admissions requirements of the Neuroscience program at large.

The types of students that will be attracted to and thrive in this program will be those who have neuroscience, psychology, or biology backgrounds with an interest in applying those research methods to educationally relevant questions, and should have demonstrated potential for conducting research through productive experience in research labs. Preference will be given to students who have research interests that closely align with a specific primary advisor.

## **Faculty Advisors**

Faculty advisors are neuroscience training faculty affiliated with the Vanderbilt Brain Institute with a stated emphasis in educational neuroscience, which currently includes the following individuals: James Booth, Laurie Cutting, Gavin Price, and Mark Wallace. Primary faculty may have their primary appointment in Peabody College, in the College of Arts and Sciences (e.g. Department of Psychology) or in the School of Medicine (e.g., Departments of Pediatrics, Psychiatry, etc.).

## **Program Plan**

The table on the next page shows required and elective courses. Students will follow the course sequence of Cognitive and Systems or Cellular/Molecular tracks and will participate in the same seminars and research forums as other neuroscience trainees (Neuroscience Discussions and Neuroscience Research Forum). However, there are some modifications to the standard neuroscience curriculum.

- Given the importance of statistics in psychological/educational research, students are required to take a minimum of two statistics courses; note that many students elect to take more and fulfill the requirements for a minor in Quantitative Methods.
- Second, along with the Neuroscience Discussions and Neuroscience Research Forum courses, students will be required to participate in a 3 credit Educational Neuroscience graduate class.

## Educational Neuroscience Track Requirements

### Summary of Requirements

A minimum of 72 total hours of graduate credit are required for the Neuroscience Ph.D. degree. In most cases course work will be completed during the first two years. At the end of the second year, a Ph.D. Qualifying Examination must be satisfactorily completed for the student to then be admitted into doctoral candidacy for a Ph.D. degree in neuroscience. If needed, remaining course electives may be taken following the qualifying Examination. After a student completes the qualifying process, the student's effort is largely directed towards completing their dissertation project.

### Didactic Requirements

Graduate students in the Educational Neuroscience Track are required to take a minimum of 30 hours of coursework by the time they are ready for qualifying exams in the summer and fall of their second to third years. In addition to the formal requirements below, by the time they are ready for qualifying exams, students are expected to have acquired expertise in at least one area of education (e.g., reading, mathematics, or psychosocial development) and one methodology (e.g., neuroimaging or genetics).

*Minimum required courses in the Educational Neuroscience Track include:*

Course #	Title
NURO 8325	Neuroscience Discussions I and II
PSY-GS 8480	Educational Neuroscience
NURO 8320	Neuroscience Research Forum
NURO 8340	Systems Neuroscience
NURO 8365	Neurobiology of Diseases
NURO 8345	Molecular and Cellular
PSY-GS 8861	Statistical Inference
PSY-GS 8867	Multivariate Statistics

*Third year:*

**FALL:** Qualifying Examination (review & oral); research hours; course electives (if needed).

**SPRING:** Dissertation Thesis Proposal meeting (Qualifying Examination Phase III & IV), Research Forum; research hours; course electives (if needed).

**SUMMER:** Research Forum; research hours.

*Fourth and Fifth years:* Successful completion of one semester of a Teaching Apprenticeship, Research Forum and Neuroscience Graduate Seminars; thesis research and defense of thesis.

**Accumulating Credits**

72 credit hours are required to graduate with the Ph.D. degree from Vanderbilt University. This allows for individualized coursework that is constructed in consultation with the doctoral advisor. The hours of course work may be increased (but not decreased), with a corresponding reduction in research hours. All graduate students who have completed their required 72 credit hours will be required to register for NRSC 9999 (Ph.D. Dissertation Research) for 0 credits until they graduate.