BEHAVIORAL GENETICS - GRADUATE CERTIFICATE

The Institute for Behavioral Genetics (IBG) offers a training program in behavioral genetics. The goal of the program is to train scientists in the study of genetic contributions to individual differences in behavior. This is accomplished by requiring students to obtain strong training in a primary academic discipline, by providing training in the interdisciplinary field of behavioral genetics, and by providing an atmosphere in which close interactions among scholars with different perspectives may be established.

Requirements

Admission Requirements

To be considered for admission, the Graduate School requires an undergraduate GPA of at least 2.75. Additionally, the most competitive applicants should have verbal and math GREs >85th percentile. Subject GRE scores are not required but will be considered if they have been completed. We carefully consider all components of the application including undergraduate grades, letters of recommendation, previous research experience and GRE scores.

Required Courses and Credits

Deviations from the IBG certificate requirements may be requested by petition to the student’s advisory committee. Specific requests for course substitution, resolution of an ambiguity, etc., should be made by written petition. A petition may be approved by a majority vote of both the advisory committee and the IBG Training Committee. Disapproval of a petition may be changed to approval by a majority vote of the IBG faculty. Students with sufficient backgrounds may also test out of required courses 1–2 (i.e., pass the final exam for the course).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>PSYC/IPHY 5200</td>
<td>Physiological Genetics and Genomics</td>
<td>3</td>
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<tr>
<td>PSYC 5102</td>
<td>Introduction to Behavioral Genetics</td>
<td>3</td>
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<tr>
<td>PSYC 5741</td>
<td>General Statistics 1</td>
<td>4</td>
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<tr>
<td>or PSYC 5751</td>
<td>General Statistics</td>
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<tr>
<td>or IPHY 5800</td>
<td>Advanced Statistics and Research Methods in Integrative Physiology</td>
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<tr>
<td>or PSYC 5541</td>
<td>Special Topics in Psychology</td>
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<tr>
<td>PSYC 5112</td>
<td>Concepts in Behavioral Genetics (Required Course: Responsible Conduct in Research)</td>
<td>3</td>
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Electives

Complete two courses from the following:

- PSYC 5122 Quantitative Genetics
- IPHY 5102 Introduction to Physiology Genomics (MCDB 5230 or MCDB 5471 may replace IPHY 5102)
- PSYC 5242 Biometrical Methods in Behavioral Genetics
- IPHY 5262 Application of Bioinformatics and Genomics
- NRSC 5100 Introduction to Neuroscience I
  - or NRSC 511 Introduction to Neuroscience II
  - or NRSC 505 Behavioral Neuroscience
  - or NRSC 513 Neuropharmacology

NOTE: As some courses can only be taught every other year, it is each student’s responsibility to take relevant courses when offered. Some equivalent courses may be offered at the Health Sciences Center or other venues. Course substitutions may be requested.

Teaching Requirements

Each of the students in the IBG Training Program must TA for at least one semester in a course judged by their advisory committee to be relevant to their professional specialty. (As part of their general responsibilities for the development of the student, advisory committees may sometimes require additional teaching.)

General Requirements

IBG students are required to conduct their doctoral dissertation research on topics of direct relevance to animal or human behavioral genetics, under the supervision of an IBG faculty member. A training file for each student is maintained in the IBG office for tracking progress toward completion of program requirements. Each student is to assist in updating this file at least once per year.

Complete one course from the following:

- IPHY 5300 Statistical Genetics for Complex Traits
- NRSC 5032 Neurobiology of Learning and Memory
- NRSC 5072 Clinical Neuroscience: A Clinical and Pathological Perspective
- NRSC 5092 Behavioral Neuroendocrinology
- NRSC 5132 Neuropharmacology (NIDA trainees are required to take NRSC 5132 or NRSC 5545 or PSYC 7102 Genetics of Substance Use Disorders)
- IPHY 6010 Seminar (Molecular Genetics of Addiction)
- IPHY 6010 Seminar (Aging and Neurodevelopmental Disorders) 3
- IPHY 6010 Seminar (Geroscience and Anti-Aging Medicine) 3
- PSYC 5541 Special Topics in Psychology (Statistical Programming in R) 3
- PSYC 5541 Special Topics in Psychology (Methods in Genetics of Complex Traits) 3
- NRSC 5545 Neurobiology of Addiction
- PSYC 5453 Developmental Psychopathology
- PSYC 5761 Structural Equation Modeling 3
- PSYC 6761 Topics in Advanced Structural Equations Modeling 3
- PSYC 7102 Seminar: Behavioral Genetics (Genetics of Substance Use Disorders) 2
- PSYC 7102 Seminar: Behavioral Genetics (Genetics of Psychopathology; this course is required for NIMH trainees)
- PSYC 7102 Seminar: Behavioral Genetics (Benchmark Papers in Behavioral Genetics)
- PSYC 7102 Seminar: Behavioral Genetics (Population Genetics in the Modern Genomics Era)
- Other approved seminar courses on topics relevant to behavioral genetics

1 Or other graduate-level course in statistics (of at least one semester) approved by the student’s advisory committee.
Specific departmental and Graduate School requirements in addition to those listed here are the responsibility of each student, in consultation with his/her advisory committee.

**Examinations**

Each student in the training program is examined at least annually by an advisory committee. Examination results are to be incorporated into the student's training file by the Chairperson of each advisory committee.

**Annual Presentations at IBG Orientation**

All continuing students are required to present a poster describing their research activity of the past year at the annual IBG Orientation—held each year in August (the last Friday before the beginning of the fall semester).

**Exit Colloquium**

All students are expected to do an exit colloquium at the conclusion of their training program. This presentation should be modeled as a "job talk," not a repeat of the final defense.