

GENETICS (PH.D.)

<https://colsa.unh.edu/molecular-cellular-biomedical-sciences/program/phd/genetics>

Description

The Ph.D. in Genetics is an interdisciplinary program made up of faculty from multiple departments and from the Hubbard Center for Genome Studies. The Genetics doctoral program integrates disciplines ranging from molecular and cellular biology to environmental and evolutionary genetics and genomics in microbial, plant, and animal systems. Graduates of the program are equipped for leadership positions in biotechnology and pharmaceutical companies, academic and government research laboratories, and successful careers in teaching and research at the college and university level.

Distinctive Features of the Program

- Outstanding research training in many cutting-edge research areas in molecular and evolutionary genetics, genomics, and bioinformatics
- Emphasis on interdisciplinary research training
- Well-equipped research laboratories and core facilities on the UNH campus
- Laboratory rotations upon entry to the program to become familiar with different research laboratories
- Weekly graduate student seminar presentations, as well as a departmental seminar series of invited speakers
- Opportunities to gain teaching experience as a Graduate Teaching Assistant

Research Opportunities

- Genomics and bioinformatics
- Evolutionary genomics
- Microbial ecology and genomics
- Plant genomics
- Signal transduction pathways
- Biodiversity and molecular ecology
- Cancer genetics

Financial Support

- Students admitted to the Ph.D. Program are typically supported by Research Assistantships or Teaching Assistantships
- Intramural summer and academic year fellowships are available on a competitive basis.

Career Prospects

- Research Directors in biotechnology and pharmaceutical industries
- Principle investigators in academic research labs and research institutes, or state and federal government agencies
- Academic preparation for future teaching and research roles in a college or university environment

Admission Requirements

- Completion of foundational courses in biology, chemistry (including organic chemistry), physics, and mathematics
 - Otherwise well-qualified applicants can correct academic deficiencies with enrollment in appropriate courses or independent study during the first year of graduate studies
- Graduate Record Examination (GRE) scores (taken within the past five years)
- International applicants living outside the U.S.A. should first complete a free online [application](#)
- Applicants from non-English speaking countries must provide Test of English as a Foreign Language (TOEFL) scores
- Three letters of recommendation
- Personal statement, including research interests and names of two or three potential Genetics faculty thesis advisors.

Requirements

Ph.D. Degree Requirements

The coordinator of the genetics graduate program, with the concurrence of the student's thesis adviser, nominates the student's guidance and doctoral committees, which administer the qualifying and final examinations, respectively. Doctoral students are expected to have a broad exposure to genetics courses, exceeding that required of master's degree students. Specific course requirements are developed by the student and the guidance committee. Each semester students must attend MCBS 997 Seminar and present one seminar per year. Upon completion of coursework, the student must pass written and oral qualifying examinations conducted by the guidance committee in order to advance to candidacy. Doctoral students must complete a dissertation on original research in genetics, give a public seminar, and orally defend their dissertation before the doctoral committee.