MICROBIOLOGY (M.S.)

https://colsa.unh.edu/molecular-cellular-biomedical-sciences/program/ms/microbiology

Description

The M.S. in Microbiology combines a rigorous curriculum in a broad range of areas with interdisciplinary research opportunities at the frontiers of microbiology, virology, host-microbe interactions and environmental microbiology. Graduates of the program are equipped for successful careers in biotechnology and pharmaceutical companies, academic and government research laboratories, and as preparation for doctoral programs, medical school, and health-related professional programs.

Distinctive Features of the Program

- Research opportunities are available in many cutting edge microbiology research areas
- 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 outside speakers
- Opportunities to gain teaching experiences as a Graduate Teaching Assistant
- Accelerated M.S. program available to UNH students enrolled in the B.S. program in Biomedical Science: Medical Microbiology

Research Opportunities

- Host-microbe interactions
- Environmental microbiology
- Signal transduction pathways
- Molecular microbiology and biotechnology
- Genomics and bioinformatics
- Transcriptional and translational regulation
- Microbial ecology and evolution

Financial Support

- Students admitted to the M.S. Program are typically supported by Research Assistantships or Teaching Assistantships
- Internal summer and academic year fellowships are available to students on a competitive basis.
- Teaching Assistantships are not available for students enrolled in the Accelerated M.S. program

- Research scientists in biotechnology and pharmaceutical industries
- Lab managers in academic research labs and research institutes, state and federal government agencies
- Academic preparation for doctoral programs and professional health programs (e.g., medical school)

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)
- Applicants from non-English speaking countries must provide Test of English as a Foreign Language (TOEFL) scores
- International applicants living outside the U.S.A. should first complete a free online application (http://gradschool.unh.edu/php/preapp.php)
- Three letters of recommendation
- Personal statement, including research interests and two or three potential Microbiology faculty thesis advisors.

Requirements

M.S. Degree Requirements

The Department of Molecular, Cellular, and Biomedical Science (MCBS) offers a master of science in microbiology. Research opportunities are available in a broad range of areas, including plant-microbe interactions, signal transduction, microbial development, host-microbe interactions, environmental microbiology, environmental and molecular virology, microbial ecology, microbial evolution, microbial genetics and genomics, molecular microbiology, and biotechnology. Students admitted to the M.S. program are required to conduct an independent research project in conjunction with a faculty adviser and must submit a thesis based on this research to a graduate committee, which determines its acceptability. Specific coursework is determined in conjunction with the graduate committee.

A minimum of 30 credits, including 6-10 thesis credits (MCBS 899 Master's Thesis), and a minimum of two other graduate level courses at the 800 or 900-level in the area of microbiology, is required. All M.S. students are required to enroll in and attend seminar (MCBS 997) every semester and present one seminar each year. A thesis and a formal defense are also required. In addition, the student must submit at least one manuscript for publication to a peer-reviewed journal.

Career Prospects