

Doctor of Philosophy in Molecular Biosciences

Program Description

The Molecular Biosciences (MBS) Program offers an interdisciplinary first year towards a Doctorate in Philosophy. Students in the MBS program has the unique opportunity to pursue research across department boundaries, before selecting a specific area of study at the end of the first year.

In this program, first-year graduate students rotate in three different laboratories within their chosen areas of research interest. These rotations are chosen by the student based on interest and need to be communicated with program leadership prior to rotation. By the end of the first-year students determine their dissertation advisor and are formally admitted to a specific department to conduct research leading to the completion of a Doctor of Philosophy in that departmental program.

For more detailed information please visit the program website.

Research Areas:

- Biofilm Sciences & Engineering
- BioInspired Materials
- Bioinformatics/Genomics/Proteomics
- Biomedical Sciences
- Biophysics
- Cell & Molecular Biology
- Developmental Biology
- Chemical Biology
- Ecology
- Life in Extreme Environments
- Biological & Mathematical Modeling
- Neuroscience
- Plant Sciences
- Virology

This program offers students a common and rigorous educational experience for the first year and continues to challenge students as they begin to specialize in their academic pathway during their second year. MBS Program students participate in seminar series, project presentations, and attend scientific meetings. In the second year, once you have chosen a research advisor based on your first-year rotation process, you will be formally admitted to a Ph.D. program in one of the eleven participating departments to conduct a research project leading to the awarding of a Doctorate of Philosophy.

Professors

This interdisciplinary program brings together faculty, departments, and research centers across campus: Astrobiology; Chemical and Biological Engineering; Chemistry and Biochemistry, Computer Science, Earth Sciences, Ecology, Land Resources and Environmental Sciences, Mathematics, Microbiology & Cell Biology, Plant Sciences and Plant

Pathology, Center for Biofilm Engineering, Center for BioInspired Materials, Pollinator Health Center, and the Thermal Biology Institute to provide students with laboratory instructions to become successful research scientists.

To possibly host rotation students, research faculty present their research to prospective MBS students during recruitment weekend (typically the prior February) and to current MBS students during orientation (August). Please email mbprogram@montana.edu and/or any member of the Faculty Committee with questions about research opportunities or lab rotations.

Admission

Applicants for the Ph.D. program have a bachelor's or master's degree with a solid foundation of science courses

Admission to the doctoral program follows the requirements of The Graduate School. Factors that the department uses in its admissions process include statement of purpose, reference letters, GPA, research experience and previous coursework. For international applicants, English proficiency is also required <https://www.montana.edu/international/admissions/englishproficiencygraduate.html>

Details about applying can be found at <http://mbprogram.montana.edu/application.asp>. The Molecular BioSciences Program requires applicants to use the online application.

Financial Assistance

The MBS Program is a competitive research opportunity that offers a stipend for the first year of study while students are exploring different research disciplines and seeking an appropriate advisor. In addition to the stipend, the MBS Program offers tuition waivers for five years of graduate school, this allows students more flexibility and decreases the burden when searching for research funding.

Research Experience

Ph.D. students will gain research experience through their lab rotation, conference submissions, and attending conferences.

Research Facilities

Research Facilities vary on lab rotation selection

Ph.D. Program First-Year

A Ph.D. student must complete a minimum of 6 credits of coursework each semester their first-year. Required courses include:

Fall Semester

MBSP 594	Molecular Biosc Prgm Sem	1
MBSP 561	Molec Biosci Lab Rotation I	1
MBSP 562	Molec Biosci Lab Rotation II	1

Two courses from any of the approved courses in the eleven participating sciences departments

Spring Semester

MBSP 594	Molecular Biosc Prgm Sem	1
MBSP 563	Molec Biosci Lab Rotation III	1
MBSP 564	Molec Biosci Lab Rotation IV	1
or MBSP 575	Mol BioSci Prgm Rsch Project	

Two courses from any of the approved courses in the eleven participating sciences departments