

# BIOLOGY; MICROBIOLOGY, MOLECULAR BIOLOGY, AND BIOCHEMISTRY; AND NEUROSCIENCE (PH.D.)

## Doctor of Philosophy. Majors in Biology; Microbiology, Molecular Biology, and Biochemistry (MMBB); and Neuroscience.

The Ph.D. program emphasizes research including (but not limited to) the departmental and multidisciplinary area described above. Admission is based upon the compatibility of the student's research interests with the areas of concentration offered by the department and the availability of a faculty member to be the student's mentor. A doctoral student develops a graduate program of at least 78 semester hours in consultation with their major professor and graduate committee. A laboratory research-based thesis is required.

Please see the Biological Sciences graduate student handbook (<https://www.uidaho.edu/-/media/UIDaho-Responsive/Files/sci/biology/academics/graduate-studies/dept-resources/grad-student-handbook.pdf>) for details and program requirements on earning the PhD in Biology degree.

### Biology Major

1. Through independent learning and collaborative study, attain, use, and develop knowledge in the sciences with disciplinary specialization and the ability to integrate information across disciplines.
2. Formulate hypotheses and conduct original research to test hypotheses.
3. Use critical thinking to explore and understand real-world issues, solve problems and make consequential decisions.
4. Clearly communicate ideas, research findings, and conclusions using oral and written communication skills.
5. Increase awareness, understanding, sensitivity, tolerance, and respect for differences between individuals and societal groups in terms of their values, motivations, mores, and opinions. Gain appreciation for how differences in personal histories and present circumstances shape the personal and professional perspectives of individuals.
6. Understand and apply high standards of ethical behavior in professional and personal interactions to advance knowledge, promote education, enhance a sense of community, and improve the general well being of others.

### Microbiology, Molecular Biology, and Biochemistry Major

1. Formulate hypotheses and conduct original research to test hypotheses.
2. Use critical thinking to explore and understand real-world issues, solve problems, and make consequential decisions.
3. Have broad knowledge of the molecular life sciences and will have specific training and in-depth knowledge in a specialized aspect of Microbiology, Molecular Biology, or Biochemistry.

4. Clearly communicate ideas, research findings, and conclusions using oral and written communication skills.
5. Increase awareness, understanding, sensitivity, tolerance, and respect for differences between individuals and societal groups in terms of their values, motivations, mores, and opinions.
6. Gain appreciation for how differences in personal histories and present circumstances shape the personal and professional perspectives of individuals.
7. Understand and apply high standards of ethical behavior in professional and personal interactions to advance knowledge, promote education, enhance a sense of community, and improve the general well being of others.

### Neuroscience Major

1. The student will be able to demonstrate expert knowledge in their specialty field.
2. The student will be able to advance the frontier of knowledge in their chosen research area.
3. The student will be able to communicate the results of their research in written and other appropriate formats.
4. The student will be able to demonstrate an understanding of their responsibility to enhance the quality of life of the global community through teaching, research, and/or the practice of science.