

# BIOLOGY

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## Learning Outcomes

1. **Knowledge:** Demonstrate comprehensive knowledge of their major concentration area within biology including the fundamental questions in the field. The comprehensive knowledge may integrate multiple areas of biology. Demonstrate knowledge in other relevant areas of concentration (statistics) necessary for research in the biological sciences.
2. **Apply:** Demonstrate advanced research skills, including posing hypotheses, designing critical experiments, collecting data, evaluating data, and drawing conclusions in the study of biological problems.
3. **Communication:** Use professional standards of the field of Biology from evaluation of literature to communication of research findings in written and spoken presentations. These presentations might include talks or posters given at local or national meetings.
4. **Create:** Make an original and substantial contribution to the field of Biology and produce publishable scholarship that is presented within multiple chapters within their dissertation. Ideally, students will submit and publish research papers in peer reviewed journals during the course of their Ph.D. program.
5. **Teach:** Demonstrate effective skills in undergraduate teaching using effective pedagogical practice.