

# BIOLOGICAL SCIENCES, PH.D.

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## Learning Outcomes

1. Doctoral degree students acquire in depth knowledge of their research area, the ability to critically analyze the literature, to identify unanswered and significant questions, and to design appropriate experiments to address these questions.
2. Doctoral degree students critically analyze research methodology and results by others.
3. Doctoral students communicate their research findings to a broader audience by means of peer reviewed publications, presentations at meetings and conferences, and written proposals for sources of science funding.
4. Students are effective and proficient teachers.

An applicant must have a baccalaureate degree or its equivalent from an accredited college or university. The applicant's academic record must indicate adequate preparation for graduate study in biology and must demonstrate ability to excel in the biological sciences. Generally, to be considered for admission, a student must have a minimum grade point average of 3.00 in the sciences on a 4.00 scale. However, these guidelines are flexible, and slight deficiencies can be compensated by strengths in another. The Graduate Studies committee recommends contacting faculty members who are carrying out research that attracts you. This will allow the applicant to get a sense of the research opportunities that are available. Finally, applicants whose native language is not English must obtain a minimum score of 600 (250 computer-based score) on the TOEFL exam or 7 on the IELTS exam.

## Degree Requirements (30 Post-Masters Hours)

Students choose a Major Professor and form an Advisory Committee during their first year. A curriculum, tailored to each student, is developed with and approved by the Advisory Committee and submitted to the Graduate School as the Program of Study. Students take a Qualifying Examination at the end of their first year, comprised of a short written and orally defended Research Plan focusing on planned research in the laboratory of their Major Professor; this Research Plan is developed in consultation with the Major Professor and presented to a committee selected by the Department Chair. Upon Advancement to Candidacy, the Advisory Committee becomes the student's Dissertation Committee. Students present a dissertation plan in the form of a Research Proposal to their Dissertation Committee and take a Comprehensive Examination; the formats of both Research Proposal and Comprehensive Examination are determined by the Dissertation Committee. Finally, students write and orally defend a research based Dissertation. PhD students entering without M.S. degrees must complete at least 60 hours of course credit including multiple credits of BIOL 798 and 12 credits of BIOL 899. Ph.D. students entering with a M.S. degree must complete at least 30 hours of course credit including multiple credits of BIOL 798 and 12 credits of BIOL 899. Ph.D. students are required to have teaching experience equivalent to two semesters as a Teaching or Instructional Assistant, unless waived on appeal by the Department Graduate Studies Committee.