

## BIOLOGY PH.D.

All students must meet the Requirements for the Doctor of Philosophy Degree (<http://catalogue.uvm.edu/graduate/degree/requirements/requirementsforthedoctorofphilosophydegree/>)

### OVERVIEW

The research of Biology faculty is grouped into two clusters: Cell and Molecular Biology and Ecology-Evolution-Animal Behavior. Students will have the opportunity to mention from the outset of the application process whose research they are interested in. While faculty research interests fall into these two broad groupings, students are encouraged to consider research projects that cross disciplines.

Learning goals for the PhD degree students are:

- Be able to design and execute an independent research project, and analyze and communicate experimental results orally and in writing.
- Be proficient in analysis and visualization of experimental results.
- Be able to articulate and defend rationale and importance of research questions, study design, and analysis of results.
- Be able to communicate general and specific knowledge and importance of findings to broad audience as well as experts within sub-disciplines.
- Have a broad factual and conceptual knowledge of biology.

### SPECIFIC REQUIREMENTS

#### Requirements for Admission to Graduate Studies for the Degree of Doctor of Philosophy

Satisfactory completion of: a B.A. or B.S. degree typically in the natural sciences or mathematics including courses in mathematics, statistics, chemistry, physics and biology; deficiencies in prerequisites may be made up after entering the program. Taking the Graduate Record Examination is not required.

#### Minimum Degree Requirements

There are 75 required credits, of which at least 30 graded credits must be earned in graduate courses including a minimum of 6 credits of Graduate Colloquia or special seminar style courses. Required courses are Scientific Survival Skills and Computational Biology. The selection of courses will be designated for each student by the advisor and graduate studies committee. At least 20, but not more than 45, credits must be earned in dissertation research. Each candidate must participate in the teaching of at least 1 undergraduate course.

#### Comprehensive Examination

The comprehensive examination must be taken by the end of the second semester of the second academic year. The format is a written proposal and oral defense of the proposal that will include

examination of broad knowledge in the student's discipline. The details and format of the examination are decided upon by the Studies Committee and will be discussed with the student well in advance of the exam.

#### Requirements for Advancement to Candidacy for the Degree of Doctor of Philosophy

Passing the comprehensive exam; minimum requirement course work of 30 credits and additional courses as required by the advisor and graduate studies committee; at least 1 academic year of graduate study at the University of Vermont.