

## BIOLOGY PH.D.

All students must meet the Requirements for the Doctor of Philosophy Degree

### 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: college-level courses appropriate for science majors typically including a year of mathematics, a year of physics, organic chemistry, at least one year of biology; scores from the Graduate Record Examination, general (aptitude) section; and acceptability to the faculty member with whom the candidate wishes to do dissertation research or rotations. Deficiencies in prerequisites may be made up after entering the program.

#### Minimum Degree Requirements

There are seventy-five required credits, of which at least thirty credits must be earned in graduate courses including a minimum of six credits of Graduate Colloquia or special seminar style courses. The selection of courses will be designated for each student by the advisor and graduate studies committee. At least twenty, but not more than forty-five, credits must be earned in dissertation research. Each candidate must participate in the teaching of at least one 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

The diagnostic examination prior to registration for the first semester; the comprehensive exam; minimum requirement course work of thirty credits and additional courses as required by the advisor and graduate studies committee; at least one academic year of graduate study at the University of Vermont.