PLANT BIOLOGY PH.D.

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

OVERVIEW

The Department of Plant Biology has ongoing research programs in: ecology and evolution including physiological ecology of aquatic plants; effects of acid depositions on forest ecosystems; physiological ecology of acid depositions; systematics and evolution of vascular plants; biogeography; physiology including morphogenesis and developmental biology of embryonic plant systems; mineral nutrition; growth and development; translocation; cellular electrophysiology; membrane function; amino acid transport; aluminum effects on cell membranes; cell and molecular biology including molecular genetics; recombinant DNA of fungi; and plant molecular development.

The department participates actively in the Cellular, Molecular and Biomedical Sciences Program which provides opportunities for interdisciplinary research with other life science departments.

The department offers a multidisciplinary non-thesis program leading to the degree of Master of Science, Field Naturalist Option. Enrollment is limited to a small number of mature, highly talented individuals who have demonstrated sustained interest in field aspects of the natural sciences. The program is designed to provide students with:

1. a solid grounding in field-related sciences;
2. the ability to integrate scientific disciplines into a coherent whole at the landscape level;
3. the ability to evaluate sites from a number of perspectives and/or criteria;
4. the ability to translate scientific insights into ecologically sound decisions; and
5. the ability to communicate effectively to a wide range of audiences.

SPECIFIC REQUIREMENTS

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

The equivalent of a UVM major in a natural or physical science. Also required are satisfactory scores on the Graduate Record Examination and evidence of previous research experience.

Minimum Degree Requirements

A total of 75 credits of course work and dissertation research. A minimum of 30 credits of course work must be in plant biology and supporting fields, and at least 20 credits must be in dissertation research. Also required is satisfactory completion of a dissertation and comprehensive examination. In addition, each candidate must participate in six semester hours of supervised teaching.

Comprehensive Examination

A written and oral examination is completed by end of the student’s second year in the program. The examination requirements can be met in two different ways:

1. The written exam consists of questions from each of the student’s committee members, and after successful completion an oral exam is scheduled.
2. The written exam takes the form of a grant proposal, and then the oral exam starts out focusing on the proposal and then broadens out to be more complete.

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

Completion of one academic year in graduate study at the University of Vermont.