BOTANY, M.S.

The Department of Botany consists of 22 faculty members with about 40 graduate students pursuing M.S. and Ph.D. degrees. The American Council on Education Rating of Graduate Program Quality ranks the department among the top five departments of botany in the country.

Graduate students work with faculty and staff on a range of projects in plant biology at all levels of organization, from molecules, through cells and organs, to populations, communities, and lineages of organisms. Major research areas include molecular, cellular, and developmental biology; structural plant biology; ecology; evolution; and systematics. We also provide advanced instruction and opportunities for research in phycology, bryology, mycology, ethnobotany, paleoecology, conservation and restoration ecology, taxonomy, genetics, and physiology.

Increasingly, graduate student projects encompass two or more of these categories. Master’s students may complete a non-thesis program in conservation or restoration ecology designed to prepare them for careers in environmental consulting, natural resource agencies, and nongovernmental organizations.

Students interested in fields bordering botany will find rich opportunities for course work, collaborative research, and seminars in many other departments and schools such as Agronomy, Bacteriology, Biochemistry, Chemistry, Engineering, Entomology, Forest and Wildlife Ecology, Genetics, Geography, Geoscience, Horticulture, Physics, Plant Breeding/Plant Genetics, Plant Pathology, Soil Science, Zoology, and the Nelson Institute for Environmental Studies. Interdisciplinary work is encouraged.

Graduate study in the Department of Botany requires a combination of advanced course work, participation in seminars, and original research. Course requirements follow one of five tracks: general botany; ecology; evolution; molecular, cellular, and developmental biology; or the non-thesis master’s degree in conservation and restoration ecology. The department encourages students to pursue independent research soon after arrival. In consultation with the faculty advisor, each student selects a track that includes courses and research topics related to his or her interests and training in the array of techniques and approaches needed to pursue research.

MINIMUM GRADE REQUIREMENTS AND SATISFACTORY PROGRESS

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

MASTER’S DEGREES

M.S

MINIMUM GRADUATE DEGREE CREDIT REQUIREMENT

30 credits

MINIMUM GRADUATE RESIDENCE CREDIT REQUIREMENT

16 credits

MINIMUM GRADUATE COURSEWORK (50%) REQUIREMENT

Half of degree coursework (15 credits out of 30 total credits) must be completed in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

PRIOR COURSEWORK REQUIREMENTS: GRADUATE WORK FROM OTHER INSTITUTIONS

No credits from other institutions are allowed to count toward the minimum graduate degree credit requirement and the minimum graduate coursework requirement.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE

No credits from a UW–Madison undergraduate degree are allowed to count toward the minimum graduate degree credit requirement and the minimum graduate coursework requirement.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL

No credits earned as a UW–Madison Special student are allowed to count toward the minimum graduate residence credit requirement, the minimum graduate degree credit requirement, or the minimum graduate coursework requirement.

CREDITS PER TERM ALLOWED

15 credits

PROGRAM-SPECIFIC COURSES REQUIRED

Select one of five botany M.S. tracks. Each track has specific course requirements. Two semesters of botany seminars.

A minimum of 50 credits in natural sciences (undergraduate and graduate program courses combined) is required. A minimum of 6 credits in graduate-level botany courses must be completed at UW–Madison. Seminars and research credits do not count toward the 6 credits in botany. Courses may be required to address deficiencies in the following: GENETICS 466 Principles of Genetics or equivalent; CHEM 103 General Chemistry I and CHEM 104 General Chemistry II or equivalent; CHEM 341 Elementary Organic Chemistry or equivalent; a physics course including electricity and light; one semester of statistics; one semester of calculus. Contact the department for more information.

OVERALL GRADUATE GPA REQUIREMENT

3.00 GPA required

OTHER GRADE REQUIREMENTS

Students must earn a B or above in all track coursework.

PROBATION POLICY

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result
in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

**ADVISOR / COMMITTEE**

A major professor must be chosen as soon as possible after beginning graduate study and in all cases by the end of the first year. A vice major professor is recommended.

Students meet with an advisory committee before their first semester and with their M.S. committee by the end of their first year to plan their coursework.

Students meet with their advisor on a regular basis to assess progress.

**ASSESSMENTS AND EXAMINATIONS**

A written thesis or research report based on work conducted in a formal research course and a final oral exam are required of all students who expect to continue for the Ph.D. degree. All master's theses must be deposited at Memorial Library.

Students who wish to terminate their graduate studies at the master's level may submit a literature review instead of a thesis.

**TIME CONSTRAINTS**

The master's degree should be completed within two and one-half years of study.

**LANGUAGE REQUIREMENTS**

No language requirements.

**ADMISSIONS**

The Department of Botany will consider applicants for graduate degrees who surpass the minimum admissions requirements of the Graduate School. Candidates for fall admission should submit their full applications to the department by December 1 to be considered for financial support. Applications may be reviewed until April 15. All applicants are required to take the general Graduate Record Exam (GRE). The GRE subject test in Biology or in Cell and Molecular Biology is not required but, if available, will be considered. Admission is based on the applicant's statement of purpose, undergraduate record, GRE scores, letters of recommendation, experience in research, and the interests they share with one or more potential faculty advisors.

**LEARNING OUTCOMES**

**KNOWLEDGE AND SKILLS**

- Acquire and demonstrate fundamental understanding of the basic properties of plant life from the subcellular to the ecosystem level of organization.
- Use critical elements of the methodological or theoretical framework in a specialized botanical subdiscipline to develop hypotheses, acquire scientific information, and interpret results in the context of the historical scientific literature.
- Develop the skills of communicating scientific information, especially in written form.
- Engage in the critical evaluation of botanical scientific data and its interpretation.

**PROFESSIONAL CONDUCT**

- Recognize and apply ethical conduct in the collection, analysis, and presentation of scientific data.
- Develop the skills essential to critical debate, discussion, and exchange of scientific information among peers and audiences of diverse intellectual and personal backgrounds.

**PEOPLE**

**Faculty:** Professors Baum (chair), Cameron, Fernandez, Gilroy, Givnish, Graham, Larget, Otegui, Spalding, Sytsma, Waller, J. Zedler; Associate Professors Ane, Emshwiller, Hotchkiss, Pringle; Assistant Professors Keeover-Ring, Maeda, McCulloh; Affiliate and Adjunct Faculty: Amasino, Brunet, Spooner, Wiedenhoft, P. Zedler