

College of Letters and Sciences
Department of Botany
Assessment Report
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Overview

Botany is unique among plant science departments at UW-Madison because of our liberal arts mission as part of the College of Letters and Science. Botany functions as a resource in providing expertise in basic plant science; excellent instruction at the introductory, intermediate and advanced undergraduate levels for students majoring in Botany as well as many other students; and competitive graduate training. In 2005-06, the program included 26 undergraduate Botany majors, and 8 B.S. and 2 B.A. degrees were awarded during 2004-05. In the graduate program, 7 Ph.D. degrees and 2 M.S. degrees were awarded in 2004-05. In addition, the department plays a major role in undergraduate education in other disciplines. Department faculty provide 7,300 credit-hours of instruction at the introductory and non-introductory levels and serve as advisors for the popular Biology and Biological Aspects of Conservation majors.

Program Learning Objectives

The following goals have been established for the program for undergraduate Botany majors:

1. Broad education in plant biology: Graduates should be proficient with the knowledge covered by courses at all levels of organization including molecular, cellular, organismal, and ecological
2. Rigorous training as a plant scientist (including several science related courses outside the Botany major)
3. Research capability: Graduates should have the ability to formulate relevant biological questions, generate hypotheses, devise experiments and interpret results.
4. Literacy: Graduates should be capable of communicating in clear scientific prose and of reading and critically evaluating scientific literature.
5. Numeracy: Graduates should be capable of using quantitative methods of analysis and modeling.
6. Computer literacy: Graduates should be capable of using computers in such areas as data processing, database searches, and word processing.
7. Documentation: Graduates should be capable of establishing and maintaining a laboratory and/or field notebook.

Additional goals for graduate program include:

8. Educate scientists: Broadly stated, the purpose of the graduate program is the education of future scientists in a diverse array of biological disciplines.
9. Prepare teachers: The graduate program stresses the art of conveying information in the college classroom setting and beyond.

Status of Assessment Efforts

The Botany Department has relatively current assessment plans for undergraduate and graduate programs. Information about the Botany Department's most recent assessment plan for the undergraduate major is contained within the 1997 Report: *Assessment of the Undergraduate Program*, while similar information for the graduate program is in the 2001 Report: *00-01 Summary of Graduate Assessment* and the 1995 *Assessment Plan for Undergraduate and Graduate Programs*. These and other reports are available online at <http://www.ls.wisc.edu/assess/Plans/default.htm>. The December 2002 *Department of Botany Self-Study* report and the April 21, 2004 Department of Botany Review Committee report contain additional relevant information.

While our faculty and staff are regularly involved in evaluating and improving individual courses and academic programs, formal assessment activities were limited in 2005-06 to an exit questionnaire directed at graduating seniors. The department plans to revitalize assessment efforts in 2006-07 as outlined below. We will initially focus on the program for undergraduate botany majors, and subsequently implement assessment of the graduate program and general education and service courses taught by Botany faculty.

Action Plan for Revitalizing Assessment

1. Create a standing Academic Program Assessment Committee to update assessment plans and coordinate departmental assessment activities.
2. Create a departmental online digital resource for ready access to assessment information and to facilitate intradepartmental communication
3. Use Walvoord model (Walvoord, Barbara E. *Making Departmental Assessment Clear, Simple, Sustainable, and Useful*. Academic Program Assessment Seminar materials, March 28, 2006, University of Wisconsin – Madison) and adaptive management approaches to establish a simple, sustainable process for ongoing assessment for continuous improvement of the program for undergraduate botany major. This will include a review of learning goals; information gathering using one direct measure and one indirect measure; and evaluating and using information for program improvement.
4. The assessment exercise will be the focus of one staff meeting per year. This will provide a forum for discussion of assessment results, and identification of action items. One action item to be worked on during the coming year would be adopted by a consensus vote, and plans for implementation would be discussed. The outcome of these efforts would be assessed and discussed at the subsequent year's meeting.
5. Use experience developed in establishing assessment process for the undergraduate major to develop simple, sustainable assessment processes for continuous improvement of the graduate program and general education and service courses.