

Annual Assessment Report

Academic Year: 2016-2017

Department: Plant Sciences & Plant Pathology

Program(s): Plant Biology Degree Option

Assessment reports are to be submitted annually to report assessment activities and results by program. The reports are due every summer with a deadline of September 15th each year.

The use of this template is entirely optional.

Note: These reports have been required by MSU policy since 2004.

1. What Was Done

1. A learning-assessment committee was formed during Spring Semester, 2017, which comprises PSPP faculty members Andreas Fischer, Matt Lavin, Chaofu Lu. Committee members teach courses required of Plant Biology degree option majors.

2. This committee met during April 2107. Because of the diverse nature of students majoring in Plant Biology (e.g., medicinal herbalists, bee keepers, Fish & Wildlife students), the committee settled with three general learning outcomes:

Program Learning Outcomes. Graduates of this program will demonstrate:

1. Knowledge and skill required to be successful in their field
2. An ability to communicate effectively
3. An ability to design experiments and analyze data

3. The Committed assessed student performance in three required courses in the Plant Biology option, BIOO 220 (General Botany), BIO433 (Plant Physiology), and BIOB 490R (Independent Research). Of these three, BIOO 220 was formally assessed for learning outcomes 1 & 2 at the introductory level and BIOB 490R for learning outcomes 1-3 at the mastery level.

2. What Data Were Collected

1. For BIOO 220, General Botany, the committee reviewed interactions of two Plant Biology students with faculty and performance on exams taken in this course during Fall 2016. The two students in question were well known by the committee members.

2. For BIOB 490R, Independent Research, the committee reviewed research reports written by three individual Plant Biology student who were enrolled in this course during Fall 2016. The three students in question were very well known by the committee members.

3. What Was Learned

1. BIOO 220. The Plant Biology students in BIOO 220 demonstrated in- and outside-classroom engagement and an overall classroom performance that demonstrated a knowledge of plant physiology, morphology, and ecology. They have the knowledge, skill, and communication abilities required to be successful in Plant Biology at least at an introductory level.

2. BIOO 490R. The Written Communication Skills Rubric contained three evaluation categories, Structure, Content, and Mechanics. These three categories involved scorings of 1-4, with 4 including criteria that indicated the best outcome. The three student consistently scored 4, with only one exception. Our assessment is that these students can clearly organize a scientific paper into the

Introduction, Methods and Materials, Results, and Discussion, while incorporating references into all but the Results section. The research reports and follow up revisions, including verbal discussions, demonstrated that these Plant Biology students have 1) the knowledge and skill required to be successful in their field, 2) the ability to communicate effectively, and 3) the ability to design experiments and analyze data. All three outcomes were determined to be at the level of mastery.

4. How We Responded

1. Our assessment indicated that no changes are needed regarding learning outcomes 1-3.
2. We will instill in Plant Biology students early during their career the need to garner outside-of-the-classroom experience so that they graduate with the research experience necessary to demonstrate a mastery level in the three learning outcomes, especially regarding 2 and 3, effective communication and the ability to design experiments and analyze data (outcome 1 is implicit in outcomes 2 and 3).