

Academic Assessment Report
PhD and MS | ENTOMOLOGY
2016-2017

The Ph.D. and M.S. programs in Entomology seeks to prepare students for careers in research, education and outreach in academia, or the private and public sectors. We strive to ensure graduates have a fundamental understanding of entomology, competency in specialty areas, problem-solving and analytical ability, oral and written communication skills, and demonstrated leadership. Further, our goal is that Ph.D. graduates are well prepared to formulate and conduct original research and function as independent scientists.

Program Goals (3-4)

(Program goals are broad general statements of what the program intends to accomplish and describes what a student will be able to do after completing the program. The program goals are linked to the mission of the university and college.)

- 1) Discipline Expertise and Critical Thinking.
 - a. Graduates will have and be able to apply a broad-based knowledge of entomology through coursework and topical seminar courses that involve discussion of pertinent contemporary scientific literature.
- 2) Problem Solving and Technical Skills.
 - a. Graduates will be able to design original research and interpret research results through statistical inference. All students are prepared in analytical skills and use those skills in defense of a thesis or dissertation.
- 3) Communication Skills.
 - a. Graduates will be able to communicate effectively. Students are prepared to communicate through written and oral presentations in courses, seminar presentations, presentations at scientific meetings and outreach presentations of non-technical material to the public.
- 4) Leadership and Teamwork.
 - a. Graduates will demonstrate leadership and work collaboratively, through service to the Department, presentations to the public, or service in professional societies. Because collaboration and teamwork are skills needed in any career, all Entomology graduates are provided opportunities through team projects in courses and extracurricular activities.

Student Learning Outcomes (6-8)

(Student Learning Outcomes are defined in terms of the knowledge, skills, and abilities that students will know and be able to do as a result of completing a program. These student learning outcomes are directly linked to the accomplishment of the program goals.)

- 1) Performance in classes and seminar
- 2) Required exams and defense of thesis or dissertation
- 3) Annual performance reviews by advisor and Department Head
- 4) Publications and presentations in professional and public venues

Process for Assessing each Student Learning Outcome

(A process must be defined and documented to regularly assess student learning and achievement of student learning outcomes. The results of the assessment must be utilized as input for the improvement of the program.)

There were 11 M.S. and 7 Ph.D. students in the 2016 academic year. One student completed the M.S. degree in fall 2016 and was admitted in the Ph.D. program in the spring 2017 term.

- 1) Performance in classes and seminar
 - a. Three graduate-level courses were taught to our students in 2016-17, as well as one graduate seminar course in each term (our graduate courses are taught every other year). Average enrollment was 11.0 students. Students were assessed by quizzes, midterm and final exams, written assignments, presentations and discussions. These measures allow instructors to assess the ability of students to demonstrate expertise in a particular sub-discipline, write and speak cogently about a topic and apply problem-solving skills.
 - b. Students showed understanding and knowledge via lab exercises and reports; midterm and final exams; and presentations. Feedback occurs through written comments and grades on exams and assignments. Average GPA for the courses was 3.96, indicating performance meeting and exceeding expectations.
 - c. All graduate students are required to maintain a minimum cumulative grade-point average, and all students met this criterion.
- 2) Required exams and defense of thesis or dissertation
 - a. This assessment incorporates disciplinary expertise, problem solving and technical skills and communication skills. Feedback occurs through a pass-fail grade. Three students (1 Ph.D. and 2 M.S.) successfully presented entrance seminars. Two students passed exit exams, defended theses, and deposited completed documents with the Graduate School earning an M.S. degree in Entomology.
- 3) Annual performance reviews by advisors and Department Head
 - a. All students were evaluated by their graduate advisors to determine progress toward degree. Feedback occurs through face-to-face conversation and discussion, as well as written scores. All students received a positive review.
- 4) Publications and presentations in professional and public venues
 - a. Twenty-seven written works were published with students as primary or co-author.
 - b. All students were encouraged to participate in professional meetings at which the student would present research results. All of our students participated in at least one meeting, totaling 41 professional presentations of their research. Although those presentations are not graded, they are assessed through practice sessions preceding the meeting, and several students won awards in competitions at the meetings.

Report annually to the Dean of the college/school the following:

- **Results of analysis of assessment of Student Learning Outcome**
- **Any changes to degree/certificate planned or made on the basis of the assessment and analysis**
- **Any changes to the assessment process made or planned.**

The assessment results above suggest we are preparing students well. No changes are planned at this time.