Plant Pathology

WASC Assessment Plan for PhD program

Three Learning Outcomes that define the knowledge and skills that Ph.D. students should possess at the time of graduation guide the Ph.D. program in Plant Pathology. A variety of direct and indirect assessment tools will be used to provide evidence of student learning.

Learning Outcome 1:

Each PhD student and Master student will master basic concepts and theoretical principles in Plant Pathology. A Ph.D. student should be able to grasp comprehensive knowledge encompassing various areas in Plant Pathology and address complex research problems in these areas by graduation. These areas include but are not limited to Virology, Bacteriology, Mycology, Nematology, Molecular Host-Microbial Interaction, etc.

**Approaches:**
1) Students set up and finish course programs with appropriate specialization with the guidance from the guidance Committee and his/her own major professor.
2) Students enroll in the PLPA 250 seminar course.
3) Students take written and oral qualifying exams.

For a Master student, Approach 1 and 2 also apply. The student should take written exams and give thesis defense seminar.

**Assessment Methods:**
1) Assignments and examinations for all the core courses and elected courses by the instructors.
2) Annual progress report assessed by the examination committee.
3) Written and oral qualifying examinations.

For a Master student, Method 1 and 2 still apply. Written exams and thesis defense (instead of Dissertation Defense) presentation are used for evaluation by the thesis committee.

Learning Outcome 2:

Each PhD student will be able to (1) understand the rationale and conduct research in a responsible and ethical manner; (2) evaluate, analyze, and interpret results; (3) develop hypotheses and design experiments to test the hypotheses; (4) convey findings effectively and translate the research results and findings to peer-reviewed publications and documents.
Approaches:
1) Each student is actively engaged in an original research project, including laboratory research work and/or fieldwork, to develop critical reading, thinking and data evaluation.
2) Organize and write dissertation thesis.
3) Write at least one manuscript (including abstracts) before graduation.

Master students should be also actively involved in a research project, and organize and write a Master thesis, but no manuscript (including abstracts) is required.

Assessment Methods:
1) Each student is required to develop a research proposal under the guidance of the major professor and graduate advisory Committee by the time of qualifying exam. Each student is required to largely accomplish the proposed research under the guidance of Dissertation Committee by the time of defense.
2) Evaluate student research annual progress reports and presentations by the Dissertation Committee.
3) Evaluate student Dissertation and defense presentation by the dissertation committee.
4) Publication of research results. At least one publication (including abstracts) as a major author is highly suggested at the time of graduation.

For a Master student, evaluation includes written exams and thesis defense examined by the thesis committee.

Learning Outcome 3:
Each PhD student will enroll in teaching assistant training, and in so doing become effective teachers and communicators.

Approaches:
1) Complete the training provided by the Teaching Assistant Development Program (TADP) or University Teaching Certificate Program (UTC) if needed.
2) Serve as a Teaching Assistant in courses close to their discipline for at least one quarter before graduation as suggested by the major professor.
3) Give oral presentations in PLPA250 at least twice by the time of graduation.
4) Have opportunities to mentor other students, including undergraduate students and rotation graduate students, in directed research activities.
5) When applicable, have opportunities to teach, trouble shoot and communicate with growers in the field and market using their knowledge of the Plant Pathology field.

Assessment Methods: These include completion of UTC training or other discreional training program if needed, evaluation of teaching assistance by students and instructor assigned to the course, engagement in presentations in the PLPA250 Departmental seminar series. Evaluation of Oral exam and Dissertation
defense by the oral exam and dissertation committees is required. Where applicable, evaluation from growers is suggested.
A Master student is not required but encouraged to have teaching experience.