Assessment Plan for the PhD Program

Program Learning Outcomes

The Ph.D. graduate program in Microbiology at UC Riverside is guided by a set of Learning Outcomes that define the knowledge, skills and professional attributes that students should possess at the time of graduation in order to attain the Ph.D. degree.

1. Each PhD student will master fundamental concepts in Microbiology.
   
   **Objectives:**
   - Students, aided by the Graduate Advisory Committee, set up individualized course programs, ensuring appropriate specialization.
   - Students enroll in the MCBL250 seminar course each quarter.
   - Students take written and oral qualifying exams by the end of their seventh quarter of residence.
   
   **Methods of Assessment:**
   - Student grades in courses listed in program of study, including core, elective and MCBL250 seminar courses.
   - Graduate Examination Committee evaluation of student performance on written qualifying exam.
   - Graduate Examination Committee evaluation of student performance during oral qualifying examination.

2. Each PhD student will have a dissertation research experience that results in understanding of the fundamental principles of scientific research and the abilities to formulate hypothesis, design experiments and conduct research in a responsible and ethical manner.

   **Objectives:**
   - Students engage in original dissertation research project, including laboratory work and/or fieldwork, under supervision of Dissertation Chair.
   - Students write at a publishable level and submit at least one peer-reviewed publication before graduation.

   **Methods of Assessment:**
   - Graduate Examination Committee evaluation of student research proposal presented at oral qualifying examination.
   - Annual Dissertation Committee assessment of student progress in independent research, publications and the dissertation.
   - Final assessment of research progress by Dissertation Committee at student dissertation defense.
   - Graduate Dissertation Committee evaluation of student writing in dissertation.
Each Ph.D. student will possess professional training in teaching and experience in oral and poster communications of microbiology research data, thus preparing the student for academic and non-academic careers in Microbiology.

**Objectives:**
- Students present at least one paper at local/regional/national venue.
- Students complete college teaching assistant training course.
- Students serve as a teaching assistant for at least one course.

**Methods of Assessment:**
- Annual Graduate Advisory Committee review of a research presentation by the student.
- Graduate Examination Committee evaluation of student performance during oral qualifying examination.
- Annual Graduate Dissertation Committee assessment of research presentation by the student.
- Graduate Dissertation Committee evaluation of oral communication in dissertation defense.
- Online evaluations of graduate student teaching (serving as teaching assistant) by undergraduate students in course.