

# Assessment: Assessment Plan

## Degree Program - AS - Microbiology (MS)

**CIP Code:** 26.0502.00

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**Modality:** Face-to-Face

### Student Learning Outcome: Content and comprehension

To have a broad understanding of and be able to discuss basic concepts of microbiology and those specific areas directly related to the student's research.

**Outcome Status:** Active

**Outcome Type:** Student Learning

**Start Date:** 09/01/2016

**End Date:** 09/01/2017

#### Assessment Methods

Method 1 - To have the student write a research proposal that will demonstrate both general understanding of biology and specific knowledge of the particular area of microbiology that their MS research will involve.

(Active)

**Criterion:** Method 1 - Satisfying the graduate committee that the student has taken the proper amount of course work as listed on the degree plan to be able to pursue the research that they are proposing to do; if there are areas that need to be supplemented; update the degree plan and take these classes as well. We anticipate that at least 90% of the students should be able accomplish this objective.

Method 2 - To pass the final exam of the thesis defense or if a non-thesis candidate to pass the comprehensive final exam. (Active)

**Criterion:** Method 2 - Students must demonstrate sufficient content knowledge and comprehension to satisfy the graduate committee in the final thesis defense. For non-thesis students the comprehensive final exam serves as a rather diluted form of the qualifying exam taken at the doctoral level. We expect that at least 90% of thesis or non-thesis students will meet one of these criteria.

### Student Learning Outcome: Presentations, authorship and funding

To ultimately be able to present research findings at regional, national or international meetings and publish their results in peer reviewed journals. In addition to be able to write grant proposals and fund research.

**Outcome Status:** Active

**Outcome Type:** Student Learning

**Start Date:** 09/01/2016

**End Date:** 09/01/2017

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## Assessment Methods

Method 1 - In BIOL 6202 (Preparation for Graduate Teaching and Learning in Biology) students will develop skills in utilizing resources in the library, making posters, writing papers and presenting.  
(Active)

**Criterion:** Method 1 - Students must demonstrate the ability to research and present data in an oral and written format to the satisfaction of the instructor and to their peers and to provide constructive criticism according to the rubric provided by the instructor.

Method 2 - In an Advanced Special Topics class (BIOL 6301 - Grant Writing), student skills in identifying funding sources and writing proposals to leverage funds are measured. (Active)

**Criterion:** Method 2 - Students must write an NSF or NIH style proposal that is ready for submission according to the standards set up the instructor.

Method 3 - Writing, presenting and defending the Master's thesis. (Active)

**Criterion:** Method 3 - Students must write, present and defend the thesis to the satisfaction of the graduate committee in the final exam. We expect that at least 90% of the students will successfully meet this criterion.

## Student Learning Outcome: Matriculation to earn a higher degree or acquire a job

To be able to pursue an advanced degree (e.g., Ph.D., M.D., or D.D.S) upon completion of the M.S. degree or be prepared to successfully compete for a job.

**Outcome Status:** Active

**Outcome Type:** Student Learning

**Start Date:** 09/01/2016

**End Date:** 09/01/2017

## Assessment Methods

Method 1 - By taking Research (BIOL 7000) and MS thesis (BIOL 6000) hours students prepare themselves for writing the thesis. This will also involve presentations to their respective lab groups in Advanced Special Topics (BIOL 6100, 6301) or Seminar (BIOL 6101).

(Active)

**Criterion:** Method 1 - Writing, presenting and successfully defending the thesis to the satisfaction of the committee, should allow the students to gain the knowledge and experience to know if they are ready (and want to) seek a higher degree or get a job. We expect at least 90% of our students to meet this criterion.

Method 2 - Learning how to write a graduate school or job application and how to conduct oneself in an interview will be critical to student success in matriculating to a get a higher degree. Such skills are developed in Advanced Special Topics courses. (Active)

**Criterion:** Method 2 - We expect that at least 75% of our MS graduates are successful in either gaining employment or enrolling in a PhD or similar program within one year of graduation. By two years, we expect that number to be above 90%