Undergraduate Program Assessment

Department of Microbiology

Student Learning Objectives

- **Basic Scientific Foundation:** Microbiology majors will develop knowledge and critical thinking skills in the basic biological and chemical sciences necessary to build a strong base for understanding complex issues in Microbiology. Analytical / Quantitative Skills Majors will complete courses in calculus and statistics providing a foundation for mathematical and statistical analysis.

- **Communication:** Microbiology majors will be able to communicate, both orally and in writing to a diverse range of audiences, from the non-scientific to their peers in a professional environment.

- **Microbiology:** Microbiology majors will understand and utilize basic concepts in core areas of microbiology including general microbiology, genetics, physiology, infectious disease, and immunology and be able to identify current ideas and theories in each area. Microbiology majors will possess laboratory skills including but not limited to the manipulation, isolation, and identification of microorganisms. Graduates will be knowledgeable about safety issues related to the handling of live microorganisms and will be competent in performing a range of molecular biology techniques as well as immunological assays.

- **Scientific Approach / Critical Thinking:** Graduates will understand the scientific method and be capable of formulating a hypothesis, conduct reproducible experiments, collect and evaluate data and form legitimate conclusions. This will include maintaining a laboratory notebook and/or records consistent in form with those required in an academic research environment and in biological industries.

Assessment tools

- **Direct:** faculty committee review of poster presentations based on independent study projects; committee review of performance in senior seminar; faculty evaluation (not the course instructor) of a special assignment in Junior Year Writing Course; evaluation of undergraduate preparation for graduate studies by examining student performance in 5th Year Masters Program.

- **Indirect:** industry partner group feedback.

Highlighted recent activities

- The Curriculum Committee as well as the full faculty plan to annually review the results of the formal and informal assessments.