

**Course Title & Number:** \_\_\_\_\_ Microbiology Bio\*H235 \_\_\_\_\_

**Competency Area:** **SCIENTIFIC KNOWLEDGE / UNDERSTANDING** (Goal: Students will gain a broad base of scientific knowledge and methodologies in the natural sciences. This will enable them to develop scientific literacy, the knowledge and understanding of scientific concepts and processes essential for personal decision making and understanding scientific issues.)

**Faculty submitting the Learning Outcomes:** \_\_\_\_\_ Rachel E. Sackett \_\_\_\_\_

**Date:** \_\_\_\_\_ 3/6/2013 \_\_\_\_\_

**[Instructions:** Please match the Learning Outcomes in the left hand column to those of the course you are submitting for Gen Ed approval. List the corresponding course outcomes in the right hand column to indicate a match.]

BOR TAP's Learning Outcomes	Corresponding Outcomes for Course Named Above
1. Communicate using appropriate scientific terminology.	Define and explain various terms and concepts in microbiology including listing the four major groups of microorganisms and describing the various characteristics of each group; comparing and contrasting the cellular composition of eukaryotic and prokaryotic organisms
2. Use representations and models to communicate scientific knowledge and solve scientific problems.	Use models to discuss the modes of action in which antibiotics work on microorganisms and give examples of the various classes of antibiotics
3. Plan and implement data collection strategies appropriate to a particular scientific question.	Apply the steps of the scientific method through researching information on the microbial diseases and compiling data to present to class Identify unknown microorganisms through experimentation including analysis of metabolic tests as well as through microscopic evaluation
4. Articulate the reasons that scientific explanations and theories are refined or replaced.	Define the term evolution, explain the Endosymbiont Hypothesis and discuss how it provides evidence for the evolution of eukaryotic organisms and compare it to other hypotheses which have been developed and revised over the years. Explain how scientific thought changed from believing that proteins were responsible for carrying heredity information to understanding the role of DNA in heredity.
5. Evaluate the quality of scientific information on the basis of its source	Students will evaluate various databases and resources to determine the quality of the information they are obtaining, and utilize those resources

and the methods used to generate it.	which are determined to be credible to conduct research in order to explain the epidemiology, etiology, diagnosis, incidence, prevalence, treatment and prevention of various microbial diseases and explain the various characteristics of the microorganisms that cause these diseases.
	<b><i>Additional Outcomes</i></b>