

Course Title & Number: __ BIO*105 - Introduction to Biology _____

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: __Christina Gentile-Renda

Date: 11-13-2013

[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.	<ol style="list-style-type: none">1. List and define the characteristics of life and describe experiments dealing with the origin of life.2. List the main taxonomic categories used in classification and the characteristics used to delineate the main domains and kingdoms of organisms, as well as using and creating taxonomic keys.3. Explain the events of the cell life cycle.4. Describe the basic principles of atomic structure, organic and inorganic chemistry including types of chemical bonds and the concept of pH.5. Describe the two main types of cells, citing the main organelles and their functions, being able to view cells using a microscope.6. Explain the events of the cell life cycle.7. Explain the processes of photosynthesis and cellular respiration.8. State the basic structure and function of plants.9. Describe the primary tissues, organs, and organ systems of animals, and the functions associated with each.10. State the basics of animal reproductive biology.11. Discuss and describe animal behavior with special emphasis on learning and social behavior.12. Describe the basic principles of ecology.
2. Use representations and models to communicate scientific knowledge and solve scientific problems.	<ol style="list-style-type: none">1. Use molecular model kits to construct molecules if given the chemical formula in order to demonstrate how bonds stabilize atoms.2. Construct Punnett squares to predict genotypic and phenotypic ratios for offspring.

3. Plan and implement data collection strategies appropriate to a particular scientific question.	1. Use the scientific method to study a problem, collect data, analyze and interpret scientific data using graphs and the metric system.
4. Articulate the reasons that scientific explanations and theories are refined or replaced.	1. State early explanations for mechanisms which drive evolution and explain why these thoughts changed with our better understanding of the principles of heredity.
5. Evaluate the quality of scientific information on the basis of its source and the methods used to generate it.	1. Distinguish between biogenesis and spontaneous generation, evaluating the evolutionary evidence provided by the experiments of Redi, and Miller and Urey.