



## BIO 111: General Biology I

This course is designed for non-science and health science majors. Science majors should take BIO 121. This course is an introductory survey of biological principles and topics representing a range of levels of organization, including general background chemistry, cell biology, genetics, evolution and ecology. Three lecture hours and two laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery. 4 credits Fall, Spring, Summer

### Course Student Learning Outcomes

1. Identify the characteristics of life. 2. Follow the steps of the scientific method in order to solve a problem. 3. Understand the major taxonomic categories and the basis of classification theory. 4. Describe the composition and functions of organic molecules. 5. Explain the role of enzymes in biochemical reactions. 6. Relate cell parts/ organelles to their functions. 7. Differentiate between prokaryotic cells and eukaryotic cells. 8. Distinguish between plant and animal cells. 9. Identify the reactants and products in the general reactions of photosynthesis and cellular respiration, as well as explain how they are related. 10. Describe and compare the processes of mitosis and meiosis. 11. Describe the structure and function of DNA and its importance in gene expression. 12. Differentiate between the different types of genetic traits and how these traits are passed on. 13. Use a Punnett Square to determine genotype and phenotype. 14. Analyze a Pedigree. 15. Summarize the processes of Darwinian Evolution & Natural Selection. 16. Use a food web to identify and distinguish producers, consumers, and decomposers. At the end of the lab, students will be able to: 1. Use the scientific method to solve problems. 2. Use basic laboratory skills to complete lab exercises. 3. Apply the information learned in lecture to solve problems in a laboratory setting.

**Credits:** 4

**Program:** Biology