



## BIO 121: Fundamentals of Biological Science I

This course is designed for science majors. An examination of three areas of contemporary biological science including selected topics in chemistry, necessary as background for cell biology, the structure and function of cells with emphasis on reproduction, membrane functions, and cell energetics, and the molecular mechanisms of genetic control and patterns of inheritance. Prerequisite: One year of high school biology or chemistry with a grade of C or better or CHM 090 with a grade of C or better. Three lecture hours and three 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. Discuss and evaluate the various theories of evolutionary science.
2. Describe and explain the scientific evidence for Darwinian evolution.
3. Explain and apply the principles of natural selection.
4. Analyze and predict the genetic processes involved in the evolution of populations.
5. Discuss the biological mechanisms of origin and extinction of species.
6. Compare/contrast the theories of the origins and evolution of life.
7. Describe and apply systematics and taxonomy of organisms.
8. Discuss and apply taxonomic keys to classify species of plants and animals.
9. Describe and explain biotic and abiotic factors that limit populations.

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1. Explain and differentiate the ecological relationships among species.

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1. Discuss and illustrate nutrient cycles, energy flows, and food webs.

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1. Describe and debate human impacts on biological systems, including climate change, biodiversity loss, and resource degradation.

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1. Critically analyze and discuss scientific literature in a written and oral report.

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1. Demonstrate and report on successfully completed laboratory exercises describing methods, results, data analysis, and conclusions.

**Credits:** 4

**Program:** Biology