



BIO 126: Introduction to Biotechnology

The course covers the tools of the biotechnician: gene manipulation, biotechnological applications in medicine, forensics, and industry, bioethics, and biological risk assessment. Prerequisite: high school Chemistry and Biology. Three lecture hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

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.

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

Credits: 3

Program: Biology