

BIOL 101 General Biology 1

Credit Hours: 3

Scheduled hours per week

Lecture: 3

Lab: 0

Other: 0

Catalog Course Description: An introduction to biological principles including the chemistry, structure, and energetics of the cell; membrane transport; molecular biology (RNA and DNA), cell reproduction (mitosis and meiosis); molecular genetics to include Mendelian and human genetics; and ecology (biodiversity, communities, and populations of living organisms.)

Pre-requisites: None

Co-requisites: BIOL 103

Course Learning Outcomes:

- Describe the structure of atoms and molecules and how they interact in biological systems.
- Identify the cell as an example of a biological system, its specific organelle structure and their respective functions.
- Describe the structure and function of enzymes and their roles in biological systems.
- Describe the structure and function of nucleic acids.
- Characterize and compare the mitotic somatic cell cycle to that of the meiotic formation of gametes.
- Describe inheritance patterns and be able to analyze and solve genetics problems.
- Describe the flow of energy and matter through organisms and ecosystems.
- Describe how modern biotechnological techniques are applied.

Topics to be studied:

- The nature of science
- Experimental design and interpretation
- Earth’s ecosystems
- Basic chemistry and biochemistry
- Cell structure and function
- Energy flow from cells to ecosystems
- Cellular and organismal reproduction
- Patterns of inheritance
- DNA structure and function
- Gene expression
- Biotechnology
- Evolution and biodiversity

Relationship of Course to Program or Discipline Learning Outcomes:

Relationship of Course to Science Learning Outcomes:	
Students will learn the process and reasoning behind the Scientific Method and be able to conduct experiments that meet the requirements of the model.	X
Students exhibit the basic safety-related rules and regulations of working in the lab.	

Students be able to recount the basic safety tenants associated with a specific scientific discipline.	
Students will become proficient at Science Writing.	
Students will recognize and identify the applications of their specific discipline in the 'real world.'	X
Students will accurately recount important milestones in the history of scientific inquiry in their discipline.	X
5/3/2016	

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	X
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
5/3/2016	

Special requirements of the course:

None

Additional information:

None

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