BIOL C100: INTRODUCTION TO BIOLOGY

Item	Value
Top Code	040100 - Biology, General
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• Area 5B Life Sciences (CB2)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5B Biological Sciences (5B)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5B Biological Sciences (5B)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2)

Course Description

Biology for non-science majors. A general study of the basic concepts of biology, including the human body and the environment. Emphasis on the characteristics of plant and animal life, human body systems, health, genetics, and the interaction of organisms in their environment. Transfer Credit: CSU; UC: Credit Limitation: No credit for BIOL C100 & C100L if taken after BIOL C180; No credit for BIOL C100L unless BIOL C100 is taken previously or concurrently; No credit for BIOL C100C if taken after BIOL C100 & BIOL C100L or BIOL C180.

Course Level Student Learning Outcome(s)

1. Compare and contrast the cell structures and functions observed in the domains of life.
2. Compare and contrast anatomical, physiological, and ecological characteristics of the major taxonomic groups.
3. Describe how natural selection and mutation drive evolution.

Course Objectives

- 1. Describe the chemical basis of life
- 2. Describe basic cell structure, functions, and mechanisms of reproduction
- 3. Describe basic characteristics of prokaryotes and viruses
- 4. Describe basic plant characteristics
- 5. Describe major concepts of human anatomy and physiology
- 6. Develop a rudimentary understanding of genetics, ecology and evolution

Lecture Content

OUR PLACE IN THE UNIVERSE Earth and its unique place Special conditions for life How life came about Diversity of life Levels of biological organization and taxonomy CHEMICAL BASIS OF LIFE Atoms and molecules as the basis of life Structure of the atom Biological molecules Metabolism (Photosynthesis and Respiration) CELL BIOLOGY The Cell Theory Cellular structure and function Cell physiology Cell reproduction (Mitosis and Meiosis) MICROBES Characteristics of Protists Characteristics of Viruses Characteristics of Bacteria and Archaea PLANTS Characteristics of plants Plant nutrition Plant physiology Plant reproduction ANATOMY AND PHYSIOLOGY OF THE HUMAN BODY Nutritional requirements of animals Human Body Systems Digestive Respiratory Circulatory Support and movement Integumentary Nervous Excretory Endocrine Reproductive GENETICS Basic genetics with applications to humans Role of DNA, genes, chromosomes in human genetics DNA replication, transcription and translation Biotechnology VIII. ECOLOGY Basic ecology Human ecology Importance of environmental maintenance and conservation EVOLUTION Theory of evolution Evidence of evolution Natural Selection and Speciation

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)
- Video one-way (ITV, video) (63)

Instructional Techniques

Discussions, PowerPoint, lecture, audio-video presentations, demonstrations.

Reading Assignments

Textbooks, open resources, news articles

Writing Assignments

Essays

Out-of-class Assignments

Essays, library assignments, news articles

Demonstration of Critical Thinking

Essays, analysis of current events, problem-solving evaluations in genetics and evolution.

Required Writing, Problem Solving, Skills Demonstration

Essays, problem-solving in genetics.

Eligible Disciplines

Biological sciences: Master's degree in any biological science OR bachelor's degree in any biological science AND master's degree in biochemistry, biophysics, or marine science OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Rye, Connie; Wise, Robert; Jurukovski, Vladimir; DeSaix, Jean; Choi, Jung; Avissar, Yael. Biology, 2e ed. OpenSTAX (https://openstax.org/details/books/biology-2e), 2018

Other Resources

1. Coastline Library