BIOL C100L: INTRODUCTION TO BIOLOGY LAB

Item	Value
Top Code	040100 - Biology, General
Units	1 Total Units
Hours	54 Total Hours (Lab 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
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• CL Option 1 Natural Sciences (CB2)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5C Laboratory Activity (5C)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5C Laboratory Activity (5C)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B3 Laboratory Activity (B3)

Course Description

Formerly: BIOL C101. Biology lab for non-science majors. A general study of plant and animal life processes to acquaint the non-biology major with basic biological concepts and instruments in the laboratory. PREREQUISITE: BIOL C100 or concurrent enrollment. 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. Apply the scientific method as a problem-solving tool.
2. Identify organisms in the major biological kingdoms
3. Explain mechanisms of evolution.

Course Objectives

- 1. Explain the scientific method and how it is used in everyday science.
- 2. Describe the basics of cellular functions
- 3. Identify characteristics of the Kingdom Plantae
- 4. Identify characteristics of the Kingdom Animalia
- 5. Identify characteristics of the Kingdom Fungi
- 6. Identify characteristics of Domain Archaea
- 7. Identify characteristics of protists
- 8. Identify characteristics of Domain Bacteria
- 9. Describe basic laboratory models in evolutionary and environmental biological science
- 10. Perform monohybrid and dihybrid crosses

Lecture Content

See lab content

Lab Content

INTRODUCTION The scientific method Experimental design Scientific measurements and recording data Tools used in the laboratory THE CELL—A BASIC STRUCTURAL UNIT Molecules of life Cell types Cell components Metabolism Mitosis and Meiosis Microbes Sample preparation for microscopy Microscopy HUMAN ANATOMY AND PHYSIOLOGY Tissue types Organs Body systems Dissection PLANT BIOLOGY Tissues Osmosis Capillary action Photosynthesis GENETICS Monohybrid and dihybrid crosses Dominant and Recessive traits Transmission of genetic information Biotechnology EVOLUTION AND SYSTEMATIC BIOLOGY Natural selection Speciation Identification vs. Classification Dichotomous keys ENZYMES DIVERSITY AND ECOLOGY

Method(s) of Instruction

- Lab (04)
- DE Online Lab (04X)

Instructional Techniques

Laboratory Experiments

Reading Assignments

Not required for lab courses

Writing Assignments

Not required for lab courses

Out-of-class Assignments

Not required for lab courses

Demonstration of Critical Thinking

Experiments and examinations covering the use of the scientific method in analysis of data.

Required Writing, Problem Solving, Skills Demonstration

Laboratory experiments Identification and classification of organisms Genetic monohybrid and dihybrid crosses Evolutionary mathematical modeling

Eligible Disciplines

Biological sciences: Masters degree in any biological science OR bachelors degree in any biological science AND masters degree in biochemistry, biophysics, or marine science OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Clark, M.A., Douglas, M., Choi, J.. Biology 2e, ed. OpenSTAX (https://openstax.org/details/books/biology-2e), 2018

Manuals Resources

1. Gunstream, Stanley. Biological Sciences Lab Manual, Pearson Custom Library (Legacy Text) , 01-01-2015

Other Resources

1. Coastline Library