

BIOL A182L: ZOOLOGY LAB

Item	Value
Curriculum Committee Approval Date	11/06/2024
Top Code	040700 - Zoology, 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	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)
Associate Arts Local General Education (GE)	<ul style="list-style-type: none"> Area 5 Physical and Biological Sciences, Scientific Inquiry, Life Science (OB)
Associate Science Local General Education (GE)	<ul style="list-style-type: none"> Area 5 Physical and Biological Sciences, Scientific Inquiry, Life Science (OSB)
California General Education Transfer Curriculum (Cal-GETC)	<ul style="list-style-type: none"> Cal-GETC 5C Laboratory Activity (5C)
Intersegmental General Education Transfer Curriculum (IGETC)	<ul style="list-style-type: none"> IGETC 5C Laboratory Activity (5C)
California State University General Education Breadth (CSU GE-Breadth)	<ul style="list-style-type: none"> CSU B3 Laboratory Activity (B3)

Course Description

A laboratory course emphasizing animal phylogeny, anatomy, and physiology using representative types. PREREQUISITE: BIOL A182 or BIOL A182H, or concurrent enrollment; Successful completion of a course at the level of elementary algebra or Appropriate OCC math placement. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Identify an animal's taxonomic group based on key characteristics.
2. Identify the anatomy of various animals.
3. Describe the function of major anatomical parts.

Course Objectives

- 1. Use the microscope and dissecting scope correctly.
- 2. Demonstrate animal dissections correctly.
- 3. Use animal taxonomic keys correctly.
- 4. Identify animal groups based on key characteristics.
- 5. Identify developmental stages (larvae) and life cycles of animals.
- 6. Identify anatomical structures of representative animals and relate their functions.
- 7. Describe their observations of living animals.
- 8. Discuss their conclusions, when appropriate, on their observations of living animals.

- 9. Apply the scientific method and reasoning through active experimentation, investigations, or other activities.
- 10. Use the mechanisms of evolution to describe taxonomic relationships among animals and their relationship to non-photosynthetic taxa.

Lecture Content

This is a lab only course that must be taken with the corresponding zoology lecture, Biology A182 (concurrently or prior to taking the lab).

Lab Content

Laboratory Activities/Experiments (not necessarily presented in this order): Overview of the major animal phyla Porifera Cnidaria and Ctenophora Lophotrochozoans Platyhelminthes, Brachiopoda, Annelida, Mollusca, etc. Ecdysozoans Nematoda, Arthropoda (Chelicerata, Crustacea, Hexapoda, Myriapoda), etc. Deuterostomes Echinodermata, Hemichordata, Chordata Comparative anatomy and physiology among vertebrates Experimentation/exploration of physiological functions (metabolic rates, locomotion, etc) Experimentation/exploration of interactions among animals and with their environment

Method(s) of Instruction

- Lab (04)

Instructional Techniques

1. Powerpoint and video presentation of laboratory concepts
2. Student identification of anatomical structures
3. Student dissections of various representative animals
4. Microscopic observation

Reading Assignments

NA

Writing Assignments

NA

Out-of-class Assignments

NA

Demonstration of Critical Thinking

Laboratory practical examinations Laboratory exercise reports

Required Writing, Problem Solving, Skills Demonstration

Written reports of selected lab exercises Students will write at least one report, present a scientific poster, or similar item based on an experiment conducted by the student.

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 Adams, B.J. Crawley, J.L.. Van De Graaff's Photographic Atlas for the Zoology Laboratory, 8th ed. Morton Publishing Company, 2018 Rationale: Has labeled figures and descriptive text to enhance the learning of animal anatomy and physiology.