

Common Course Outline for: BIOL 2202 Animal Diversity

A. Course Description

1. Number of credits: 4
2. Lecture hours per week: 3
Lab hours per week: 3
3. Prerequisites: BIOL 1106 or BIOL 1502 (C or higher)
4. Co-requisites: None
5. MnTC Goal: 3

A laboratory science course intended for biology and related majors. Students will explore evolutionary relationships among animal taxa from morphological, physiological, developmental and ecological perspectives. Dissection of preserved animals is a required part of the laboratory. Lecture 3 hours per week; lab 3 hours per week.

B. Date last revised: August 2019

C. Outline of Major Content Areas

Lecture: Subtopics listed under each main topic may vary due to recent developments in the field and current events.

1. Systematics
2. Origins of multicellularity
3. Form and function
4. Systematic survey of taxa
 - a. Phylum Porifera
 - b. Phylum Cnidaria
 - c. Phylum Ctenophora
 - d. Protostomia
 - i. Lophotrochozoa
 - a) Platyzoa
 - b) Polyzoa
 - c) Throchozoa
 - ii. Ecdysozoa
 - a) Nematodea
 - b) Panarthropoda

- e. Deuterostomia
 - i. Phylum Echinodermata
 - ii. Phylum Chordata

Laboratory: Students will actively participate in lab by completing studies related to:

1. Systematics
2. Phylum Porifera
3. Phylum Cnidaria
4. Phylum Platyhelminthes
5. Phylum Nematoda
6. Phylum Mollusca
7. Phylum Annelida
8. Phylum Arthropoda
9. Phylum Echinodermata
10. Phylum Chordata

D. Course Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Describe and contrast the behavior and adaptive features of representative members of each major taxonomic group. (2c, 3a)
2. Explain how animals maintain homeostasis while responding to external and internal changes. (2c, 3a)
3. Relate animal structure to function. (2c, 3a)
4. Associate the mode of life, adaptations, and life cycles of selected animals to successful exploitation of their environment. (2c, 3a)
5. Critique the concept of evolutionary progression using examples from sponges to the vertebrates. (2a, 2b, 2c, 3a, 3c, 3d)
6. Formulate a hypothesis, and conduct and analyze an experiment with a model organism. (2a, 2b, 2c, 3b)

E. Methods for Assessing Student Learning

A variety of evaluation and assessments methods will be used including, but not limited to, the following:

1. Written examinations (multiple choice, true-false, fill-in-the-blank, matching, short answer questions, and essays)
2. Quizzes
3. Lab practical exams
4. Graded dissections

5. A final comprehensive exam

F. Special Information

The laboratory portion of the course is delivered in the Biology Learning Center (BLC). The BLC is an open lab and has its own set of operating policies and procedures. An instructor will include the most recent version of the Departmental and Biology Learning Center Policies in the course syllabus.

Animal dissections are a required part of the laboratory; there are no exceptions or alternate activities.