University of Arkansas – Fort Smith
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General Syllabus

BIOL 2701 General Zoology Laboratory

Credit Hours: 1 Lecture Hours: 0 Laboratory Hours: 3

Prerequisite: BIOL 1151 Biological Science Laboratory OR BIOL 2011 General Biology Laboratory
Prerequisite or corequisite: BIOL 2703 General Zoology

Effective Catalog: 2018- 2019

I. Course Information

A. Catalog Description

Covers the classification, morphology, and major biological features of animals.

B. Additional Information - None

II. Student Learning Outcomes

A. Subject Matter

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

1. Recognize the major groups of animals.
2. Identify many of the local forms of animals.
3. Use a taxonomic key for identification purposes.
4. Describe the general characteristics of the major animal phyla and name representatives of each.
5. Discuss some of the major traits of animals used to construct a phylogenetic tree.
6. Discuss some of the ecological factors influencing distribution patterns of animals within and between phyla.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills
Critical Thinking Skills: Students will identify a problem or issue, and research, evaluate, and compare information from varying sources in order to evaluate authority, accuracy, recency, and bias relevant to the problems/issues. Students will

apply appropriate mathematical/statistical models to solve problems, and represent mathematical/statistical information symbolically, visually, numerically and verbally and will interpret models and data in order to draw inferences.

Communication Skills (written and oral)
Students will effectively communicate scientific ideas and principles. Students will compose scientifically sound lab reports and communicate facts to intended audience.

Ethical Decision Making
Students will identify ethical dilemmas and affected parties, and apply ethical frameworks to resolve a variety of ethical dilemmas.

Global & Cultural Perspectives
Students will work in groups comprised of diverse cultures and cultural perspectives.

III. Major Course Topics

A. Animal classification
    1. Introduction to animal taxonomy
    2. Using a taxonomic key to identify major animal taxa
B. Protozoan groups
    1. Amoeba
    2. Phylum Euglenozoa
    3. Phylum Apicomplexa
    4. Phylum Ciliophora
C. Sponges
    1. Anatomy of a syconoid sponge
    2. Microscopic study of cell types
D. Phylum Cnidaria
    1. Class Hydrozoa – study of *Hydra*
    2. Class Scyphozoa – *Aurelia*
    3. Class Anthozoa
E. Phylum Platyhelminthes
    1. Class Turbellaria – planarians
    2. Class Trematoda – digenetic flukes
    3. Class Cestoda – tapeworms
F. Small protostome phyla: Nematoda and Rotifera
    1. General features and internal structure of *Ascaris*
    2. Microscopic examination of a rotifer culture
G. Mollusks
    1. External and internal anatomy of a freshwater clam
    2. External anatomy of a snail
    3. External structure and mantle cavity of a squid
H. Annelids
    1. External examination of errant polychaete – *Nereis*
    2. Earthworm dissection

3. External anatomy of a leech

I. The chelicerate arthropods
1. Anatomy of horseshoe crab
2. Anatomy of garden spider

J. The crustacean arthropods
1. External and internal anatomy of crayfish
2. Study of living *Daphnia*

K. Myriapod and hexapod arthropods
1. External anatomy of centipedes and millipedes
2. Anatomy of grasshopper and honeybee
3. Study of *Drosophila* life cycle

L. Echinoderms
1. Anatomy of a sea star
2. Anatomy of a brittle star
3. Anatomy of a sea urchin
4. Anatomy of a sea cucumber

M. Phylum Chordata
1. Study of adult and larval tunicate
2. Anatomy of Amphioxus

N. Fishes: lampreys, sharks, and bony fishes
1. External anatomy of a sea lamprey adult and ammocoete larva
2. External anatomy of a shark
3. External and internal anatomy of a yellow perch

O. The mammals: fetal pig dissection
1. Examination of cat skeleton
2. Pig digestive system
3. Pig respiratory system
4. Pig circulatory system
5. Pig urogenital system
6. Nervous system: study of sheep brain