

**University of Arkansas – Fort Smith**

**5210 Grand Avenue  
P. O. Box 3649  
Fort Smith, AR 72913–3649  
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General Syllabus:**

**BIOL 35094 Invertebrate Zoology**

Credit Hours: 4

Lecture Hours: 3

Laboratory Hours: 3

Prerequisite: BIOL 10503/10501 General Zoology/Laboratory and ENGL 10203 Freshman English II or ENGL 24603 Advanced Composition

Effective Catalog: 2018- 2019

**I. Course Information**

**A. Catalog Description**

A survey of the major invertebrate phyla. Introduction to morphology, physiology, behavior and ecology of major invertebrate groups as they relate to phylogenetic relationships, and adaptations for specific habitats and lifestyles.

**B. Additional Information**

This is a junior level course for students that are biology majors that have successfully completed at least 8 hours of college level biology including General Zoology. Students are required to collect and preserve insects and/or other invertebrates.

**II. Student Learning Outcomes**

**A. Subject Matter**

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

- 1 Compare and contrast physical and chemical characteristics of marine, freshwater and terrestrial environments and evolution of adaptations invertebrates developed to survive these habitats.
- 2 Compare morphological, embryological, and physiological adaptations of marine, freshwater and terrestrial invertebrates.
- 3 Identify and name the major invertebrate phyla and describe their general structure, and name representatives of each.
- 4 Use a dichotomous key to classify invertebrates taxonomically.
- 5 Collect, preserve and identify common invertebrates.
- 6 Define biological terms used to describe the structures and functions of invertebrates.
- 7 Discuss ecological relationships of invertebrates within a phylum and between

- phyla.
- 8 Identify key evolutionary innovations that led to diversification in various invertebrate groups.

## **B. University Learning Outcomes**

### **Analytical Skills**

**Critical Thinking:** Students will compare and contrast physical and chemical characteristics of marine, freshwater and terrestrial environments and evolution of adaptations invertebrates developed to survive these habitats.

### **Communication Skills (written and oral)**

Students will communicate with their lab partners to arrange work assignments for field trips. Students will make a scientific presentation in both oral and poster form.

## **III. Major Course Topics**

- A. Introduction to aquatic and terrestrial habitats
- B. Introduction to diversity, classification and phylogeny of invertebrates
- C. Body plans, development, and life histories of the following groups of animals:
  1. Protozoa
  2. Mesozoa
  3. Parazoa: Phylum Porifera
  4. Diploblastic eumetazoa: Phyla Cnidaria and Ctenophora
  5. Triploblastic eumetazoa: Acoelomates: Phyla Platyhelminthes and Nemertea
  6. Triploblastic eumetazoa: Pseudocoelomates: Phyla Rotifera, Gastrotricha, Kinorhynca, Nematoda, Nematomorpha, Priapulida, Acanthocephala, Entoprocta, Gnathostomulida, Loricifera
  7. Triploblastic eumetazoa: Coelomates: Phyla Mollusca, Annelida, Sipuncula, Echiura, Onychophora, Tardigrada, Arthropoda, and Echinodermata
  8. Phylum Chaetognatha, hemichordates and non-vertebrate chordates
- D. Ecology of selected local invertebrates.
- E. Identification of selected local invertebrates.