

University of Arkansas - Fort Smith
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General Syllabus

BIOL 4754 Mammalogy

Credit Hours: 4

Lecture Hours: 3

Laboratory Hours: 3

Prerequisites: BIOL 2703/2701 General Zoology/Laboratory

Effective Catalog: 2018~2019

I. Course Information

A. Catalog Description

A survey of biodiversity, evolution, adaptations, anatomy, zoogeography, ecology, and conservation of globally distributed mammal species.

B. Additional Information – None

II. Student Learning Outcomes

A. Subject Matter

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

1. Diagnose the major taxonomic groups (i.e., order, family, and genus) of mammals using a dichotomous key based on a list of pertinent characteristics and/or upon examination of the skull of the organism.
2. Interpret the fossil remains and phylogenetic relationships among the major taxonomic groups of mammals.
3. Evaluate the morphological adaptations that make the major taxonomic groups of mammals unique and allow them to be successful in their ecological niche.
4. Discuss how major mammal taxonomic groups came to be in current geographical range.
5. Evaluate the major issues concerning mammal conservation and the conservation of the communities of which they are a part.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills

Critical Thinking Skills: Students will use critical thinking skills to identify problems and develop solutions, especially in the area of conservation.

Communication Skills (written and oral)

Students will demonstrate proficiency in communication by composing coherent arguments presented both orally and in writing.

Ethical Decision Making

Students will identify ethical dilemmas (e.g., pollution, population management, environmental conservation, whaling, laboratory testing, etc.) and apply ethical frameworks in discussions about these issues.

Global and Cultural Perspectives

Students will demonstrate (1) the application of the science of biology in a global environment, and (2) how interacting with nature may impact societies and cultures, biological communities, and ecosystems around the world.

III. Major Course Topics

- A. Mammalian Biodiversity
 - 1. Prototheria
 - 2. Metatheria
 - 3. Eutherian
- B. Taxonomic Classification of Mammals
 - 1. Global orders and families
 - 2. Arkansas mammals
- C. Origin of Mammals and Mammalian Evolution
 - 1. Fossil record
 - 2. Current geographic distribution
- D. Mammal Reproduction
 - 1. Mating patterns
 - 2. Egg layers
 - 3. Marsupials
 - 4. Placentals
- E. Basic Mammalian Anatomy & Physiology
- F. Mammalian Perception & Behavior
 - 1. Living in populations and communities
 - 2. Sensory perception
 - 3. Communication
- G. Mammalian Ecology
 - 1. Population dynamics
 - 2. Conservation
 - 3. Wildlife management and ethics
- H. Mammalian Disease & Parasites