

University of Arkansas – Fort Smith
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General Syllabus

BIOL 42603 Wildlife Conservation

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Prerequisite: BIOL 34183/34081 Ecology/Laboratory

Effective Catalog: 2018~2019

I. Course Information

A. Catalog Description

Applies ecological principles to conservation of wildlife and natural habitats. Focus is on case studies with particular attention to North American flora and fauna.

II. Student Learning Outcomes

A. Subject Matter:

Upon completion of this course, students will be able to:

1. Demonstrate a firm grasp of conservation biology in theory and practice.
2. Explain basic techniques involved in wildlife monitoring, study, and management.
3. Articulate key case studies pertaining to North American wildlife conservation and the social, political and biological problems associated with various conservation movements.
4. Interpret wildlife harvesting methods and how it applies to conservation overall.
5. Articulate concepts of conservation at the level of communities and ecosystems and the evaluate problems faced by wildlife in face of climate change and human habitat alterations.

B. University Learning Outcomes:

Wildlife Conservation enhances student abilities in the following areas:

Analytical Skills

Quantitative Reasoning: 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 demonstrate proficiency in communicating through presentation of arguments either in writing or orally.

Ethical Decision Making

Students will incorporate ethical concepts into personal internship experiences and learn vicariously through observation and understanding of others' ethical choices.

III. Major Course Topics

- A. What is Conservation Biology?
 - 1. Problems with human population explosion
 - 2. The new science of Conservation Biology
 - 3. Underlying ethical principles of Conservation Biology
- B. Biological diversity
 - 1. Species diversity
 - 2. Genetic diversity
 - 3. Ecosystem diversity
 - 4. Keystone species and trophic cascades
- C. Where is Biological Diversity found?
 - 1. The top diverse ecosystems on earth
 - 2. Patterns of diversity
 - 3. Why are tropics so diverse?
- D. Extinction
 - 1. Past mass extinctions
 - 2. The current anthropogenic extinction
 - 3. Background extinction rates
 - 4. Extinction rates on islands
 - 5. Invasive species
 - 6. Island Biogeography Model
- E. Vulnerability to Extinction
 - 1. Endemism and small populations
 - 2. Species vulnerable to extinction
- F. Habitat destruction and fragmentation
 - 1. Edge effects
 - 2. Interspecies interactions
 - 3. Potential for disease
- G. Global Climate Change
 - 1. Recent IPCC reports
 - 2. CO₂ levels and temperature
 - 3. Evidence for anthropogenic climate change
 - 4. Past and future scenarios