

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Biology</u>
COURSE RUBRIC AND NUMBER	<u>BIOL 1313</u>
COURSE TITLE	<u>Vertebrate Zoology</u>
COURSE CREDIT HOURS	<u>4 3 :</u> <u>0</u>
	Credits Lec Lab

I. Catalog Description

Continues BIOL 1413. A survey of basic classification, functional systems, and biology of vertebrates. Presents the concept of life processes and a detailed study of anatomy, physiology, development, evolution, systematic relationships, and ecology of vertebrates and related members of the Phylum Chordata. This course is for science majors and other majors interested in organismal biology. **Prerequisite: BIOL 1306 and 1106. (3:3). Corequisite: BIOL 1113. (3:0)**

II. Course Objectives

- A. Unit I. Taxonomy and Systematics
1. Describe the current schools of thought involving classification and systematics of vertebrates.
 2. Discuss the principles of vertebrate zoogeography.
 3. Describe and identify members of the following related animals taxa: Early Chordates, jawless fish, gnathostome fish, amphibians, reptiles, archosauria, and mammals.
- B. Unit II. Phylum Chordata
1. Describe the processes and systems responsible for the continuity of life, including reproduction, growth and development, principles of inheritance, and population dynamics.
 2. Compare and contrast the systems employed by various vertebrate animals, including the integument, skeletal, and muscular systems.
 3. Describe how homeostasis is regulated by the nervous, excretory, digestion, endocrine, and immune systems within the vertebrate animals (with emphasis on unique adaptations of the various vertebrates).
- C. Unit III. Vertebrate Systems: Subphylum Vertebrata
1. Describe and identify the evolution of Chondrichthyes and Osteichthyes vertebrates.
 2. Describe the major radiation of the Chondrichthyes.
 3. Describe the major radiation of the Osteichthyes.
 4. Compare and contrast the major adaptations observed in the fish groups.
- D. Unit IV. Class Agnatha
1. Describe the evolutionary adaptations for a terrestrial existence and tetrapod development.
 2. Discuss the major adaptations of amphibians in terrestrial ecosystems.
 3. Compare and contrast the Gymnophiona, Caudata, and Anura.
- E. Unit V. Class Chondrichthyes and Osteichthyes
1. Discuss the major evolutionary adaptations within the Amniota groups.
 2. Describe the major ecological interactions among the Amniota groups.
 3. Describe evolutionary adaptations within the Testudines group.

- F. Unit VI. Class Amphibia
1. Describe the major adaptations observed in the Lepidosaur groups.
 2. Discuss their major evolutionary adaptations to terrestrial reproduction.
 3. Discuss their basic physiological modifications for arid environments.
- G. Unit VII. Class Reptilia
1. Investigate the evolutionary relationships between the crocodilian and avian groups.
 2. Discuss the major evolutionary adaptations for flight.
 3. Compare and contrast the systematic classification for Archosauria.
- H. Unit VIII. Archosauria
1. Identify and describe Mammalian diversity.
 2. Discuss basic Mammalian specialization.
 3. Discuss Primate evolution.
- I. Unit IX. Class Mammalia
1. Describe the relationships of animals with their environment with regard to intraspecific behavior and ecology.
 2. Describe interspecific interactions among vertebrate groups.
 3. Describe conservation and management strategies regarding extinction and extirpation of vertebrate groups.
- J. Unit X. Ecology and Biogeography
1. Describe the relationships of animals with their environment with regard to intraspecific behavior and ecology.
 2. Describe interspecific interactions among vertebrate groups.
 3. Describe conservation and management strategies regarding extinction and extirpation of vertebrate groups.

III. THECB Learning Outcomes (ACGM)

Upon successful completion of this course, students will:

1. Compare and contrast the structures, reproduction, and characteristics of animals.
2. Describe the characteristics of life and the basic properties of substances needed for life.
3. Identify the principles of inheritance and solve classical genetic problems.
4. Describe phylogenetic relationships and classification schemes.
5. Identify the major phyla of life with an emphasis on animals, including the basis for classification structural and physiological adaptations, evolutionary history, and ecological significance.
6. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
7. Identify the substrates, products, and important chemical pathways in respiration.
8. Describe the unity and diversity of animals and the evidence for evolution through natural selection.
9. Describe the reasoning processes applied to scientific investigations and thinking.
10. Describe basic animal physiology and homeostasis as maintained by organ systems.
11. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
12. Describe the structure of cell membranes and the movement of molecules across a membrane.

IV. Evaluation

- A. Objective and short essay exams
- B. Grading will follow current El Paso Community College catalog standards.

Grading Scale:

90 -100	=	A
80- 89	=	B
70-79	=	C
60-69	=	D
Below 60	=	F

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024)

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6 -Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information