El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Biology**
COURSE RUBRIC AND NUMBER	**BIOL 1313**
COURSE TITLE	**Vertebrate Zoology**
COURSE CREDIT HOURS	**4 (Credits) 3 (Lec) : 0 (Lab)**

I. Catalog Description

Provides the fundamental biological concepts relevant to vertebrate animals, including systematics, evolution, structure and function, cellular and molecular metabolism reproduction, development, diversity, phylogeny, and ecology with emphasis on vertebrate taxonomy and physiology. THIS COURSE IS INTENDED FOR SCIENCE MAJORS. **Prerequisites: BIOL 1306 and 1106. 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. Discuss the major evolutionary relationship within the Chordate taxa.
2. Describe the major evolutionary and ecological interactions among the Chordata groups.

C. Unit III. Vertebrate Systems: Subphylum Vertebrata

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).

D. Unit IV. Class Agnatha

1. Discuss the major evolutionary adaptations within the Agnatha group.
2. Describe the major ecological interactions among the Agnatha groups.

E. Unit V. Class Chondrichthyes and Osteichthyes

1. Describe and identify the evolution of Chondrichthyes and Osteichthyes vertebrates.
2. Describe the major radiation of the Chondrichthyes and Osteichthye taxa.
3. Compare and contrast the major adaptations observed in the fish groups.

F. Unit VI. Class Amphibia

1. Describe the evolutionary adaptations for terrestrial existence and tetrapod development.
2. Discuss the major adaptations of amphibians in terrestrial ecosystems.
3. Compare and contrast the Gymnophiona, Caudata and Anura.

G. Unit VII. Class Reptilia

1. Discuss the major evolutionary adaptations within the Amniota groups.
2. Describe the major ecological interactions among the Amniota groups.
3. Describe the evolutionary adaptations within the Testudines groups.
4. Describe the major adaptations observed in the Lepidosaur groups.
5. Discuss their major evolutionary adaptations to terrestrial reproduction.
6. Discuss their basic physiology modifications for arid environments.

H. Unit VIII. Archosauria

1. Investigate the evolutionary relationship between the crocodilian and avian groups.
2. Discuss the major evolutionary adaptations for flight.
3. Compare and contrast the systematic classification for Archosauria.

I. Unit IX. Class Mammalia

1. Identify and describe Mammalian diversity.
2. Discuss basic Mammalian specialization.
3. Discuss primate evolution.

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.

VI. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.