

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Biology</u>
COURSE RUBRIC AND NUMBER	<u>BIOL 1413</u>
COURSE TITLE	<u>Invertebrate Zoology</u>
COURSE CREDIT HOURS	<u>4 3 3</u> Credits Lec Lab

I. Catalog Description

Provides fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. This course is intended for science majors. **Prerequisites: BIOL 1306 and 1106 with a “C” or better. (3:3). Lab fee.**

II. Course Objectives

A. Unit I. Taxonomy and Systematics

1. Discuss and describe the current schools of thought involving classification and systematics.
2. Describe the differences between Phenetic, Evolutionary, and Cladistic philosophies of zoological systematics.
3. Discuss the developmental processes in invertebrate animals.

B. Unit II. Invertebrate Physiology

1. Explain the anatomical and systematic similarities and differences among various invertebrate groups.
2. Discuss the proposed phylogenetic relationships in invertebrates.

C. Unit III. Invertebrate Diversity

1. Describe and identify members of the following related animal taxa in the Phyla: animal-like Protista, Porifera, radiate animals, Platyhelminthes, Nematoda, Mollusca, Annelida, Arthropoda, Echinodermata.
2. Describe the ecological relationships of invertebrates with their environment, with emphasis on their biogeography.

III. THECB Learning Outcomes (ACGM)

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.

Learning Outcomes (Lab)

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
1. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
2. Communicate effectively the results of scientific investigations.
3. Compare and contrast the structures, reproduction, and characteristics of animals.
4. Describe the characteristics of life and the basic properties of substances needed for life.
5. Identify the principles of inheritance and solve classical genetic problems.
6. Describe phylogenetic relationships and classification schemes.
7. 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.
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
9. Identify the substrates, products, and important chemical pathways in respiration.
10. Describe the unity and diversity of animals and the evidence for evolution through natural selection.
11. Describe the reasoning processes applied to scientific investigations and thinking.
12. Describe basic animal physiology and homeostasis as maintained by organ systems.
13. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
14. 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.

VII. 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.