

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Biology</u>
COURSE RUBRIC AND NUMBER	<u>BIOL 1307</u>
COURSE TITLE	<u>Biology for Science Majors II (Lecture) (C) (MNS)</u>
COURSE CREDIT HOURS	<u>3 3 0</u> Credits Lec Lab

I. Catalog Description

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. **Students pursuing an Associate of Science are required to earn a “C” or better in this course. Prerequisite: BIOL 1306 and 1106 with a “C” or better or Biology CLEP exam. Corequisite: BIOL 1107. (3:0).**

II. Course Objectives

A. Unit I. The Evolutionary History

1. Describe how the earth has changed, the origin of life, and the classification of life into kingdoms.
2. Apply the scientific method while investigating the topics of the course. In applying the scientific method, students will demonstrate:
 - a) effective development, interpretation, and expression of ideas and **communication skills** through written, oral, and/or visual communication of their scientific investigation, outcomes, and conclusions.
 - b) **critical thinking skills** by engaging in creative thinking, innovation, inquiry, and demonstrating analysis, evaluation, and synthesis of information.
 - c) **empirical and quantitative skills** by formulating an inquiry and following an investigative process using empirical and/or qualitative/quantitative reasoning to satisfy the inquiry. This includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
 - d) **teamwork skills** by being able to consider different points of view and by effectively working with others to support a shared purpose or goal in their scientific investigation.

B. Unit II. Biological Diversity

1. Describe the most important characteristics of simple organisms:
 - a. Viruses
 - b. Bacteria
 - c. Protists
2. Analyze the evolutionary history and diversity of the major groups of organisms with regard to their ecological relationships with other organisms and their environment.

3. Analyze some examples/cases in the field of conservation biology to protect our ecosystems.

C. Unit III. Plant Form and Function

1. Analyze the evolutionary history and diversity of the major groups of plant phyla.
2. Discuss the influence of animals (and other organisms) on the form and function of present-day plants.
3. Discuss general aspects of transport systems and nutrition in plants.
4. Analyze different plant reproductive strategies.

D. Unit IV. Fungal Diversity

1. Fungal Evolution
 - a. Analyze the evolutionary history and diversity of the major groups of Fungi.
2. Discuss fungal structure, functions, and relationships:
 - a. Discuss the influence of fungi on other living taxa
 - b. Discuss important examples, ecological interactions, and their phylogenetic relationships.
 - c. Discuss their agricultural impact
 - d. Discuss nutrient cycling
 - e. Discuss their medical importance

E. Unit V. Animal Form and Function

1. Analyze the evolutionary history and diversity of the major groups of animal phyla.
2. Analyze general aspects of animal organization (tissue to organ systems) and the necessity of structural features such as hydrostatic, and exo- and endoskeletons (cartilage and bony).
3. Compare and contrast the methods used by animals to regulate internal temperature (ecto vs. endothermic); place special emphasis on energy consumption, efficiency, behavioral adaptations, and limitations.
4. Describe (in a comparative manner) the nervous system of the major animal taxa.
5. Explain how the nervous, muscular, cardiovascular, respiratory, digestive, and urinary systems work together to allow for proper functioning of the body.
6. Analyze the different reproductive strategies in the different animal Phyla.

III. THECB Learning Outcomes (ACGM)

Upon successful completion of this course, students will:

1. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.
5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

IV. Evaluation

- A. Pre-assessment not required
- B. Post-assessment

1. **Grade:** Type and number of exams will be determined by the instructor. The evaluation

method, frequency, and individual weight of each assessment method is to be determined by the instructor.

C.	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.