El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Biology**
COURSE RUBRIC AND NUMBER	**BIOL 1109**
COURSE TITLE	**Human Biology Laboratory**
COURSE CREDIT HOURS	**1 0 : 2**
	Credits Lec Lab

I. Catalog Description

Accompanies BIOL 1309, Biology for Non-Science Majors II laboratory-based course. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. **Prerequisite: BIOL 1308 and BIOL 1108. Corequisite: BIOL 1309. (0:2). Lab fee.**

II. Course Objectives

The course focuses on applications of human anatomy and physiology with a significant "hands-on" laboratory activities, multi-media resources, and student presentations.

A. Unit I. Laboratory Skills and the Organization of the Human Body
1. Develop competence in lab safety procedures and practices
2. Students should gain experience in the use of the following science process skills:
    a. Observation
    b. Microscope use
    c. Graphing
    d. Measuring
    e. Communicating scientific concepts (*e.g.* Presentations)
3. Learn vocabulary associated with body orientation, body cavities, and the major organ systems
4. Understand how form and function of the body systems are interrelated to maintain homeostasis

B. Unit II. The Skeletal and Muscular Systems
1. Distinguish the four major groups of tissue in the human body (connective, muscle, epithelial, nervous)
2. Describe bone structure, function, development, and common skeletal system disorders
3. Acquire familiarity with the three major types of muscles (skeletal, cardiac, and smooth) and discuss muscular system disorders

C. Unit III. Cardiovascular, Lymphatic and Immune Systems
1. Identify components of the blood and understand their role in the circulatory system
2. Trace the pathway of blood circulation through the cardiovascular system, paying attention to the major chambers, valves, and vessels and discuss common disorders related to the circulatory system
3. Describe the principal functions of the lymphatic system, including immune system cellular components
4. Understand how the lymphatic system integrates with the cardiovascular system and its role in immunity

D. Unit IV. The Respiratory System
1. Trace the pathway of breath through the upper and lower respiratory tracts utilizing a model system (e.g. through the use of a bell jar model)
2. Identify common respiratory disorders

E. Unit V. The Nervous and Endocrine Systems
1. Classify components of the two major divisions of the nervous system (CNS, PNS), and their sub-classes (somatic, autonomic, etc.)
2. Conduct a series of tests on the special senses (sight, hearing, taste, smell, touch), keeping in mind how each of these integrate with the CNS and PNS
3. Identify the common disorders of the nervous system
4. Identify the feedback patterns among glands and hormones in the endocrine system that enables homeostasis
5. Discuss the most common endocrine disorders

F. Unit VI. The Digestive System and Nutrition
1. Trace the process of food digestion and metabolism as it passes through the major and auxiliary organs of the digestive system
2. Identify nutritional components necessary for healthy human physiology (carbohydrates, proteins, fats, vitamins, minerals, etc.)
3. Discuss disorders associated with poor nutrition (including eating disorders)

G. Unit VII. The Urinary and Reproductive Systems
1. Trace the process of waste excretion from the body via the urinary system
2. Identify common disorders of the urinary system (kidney stones, UTIs, prostate disease, chronic kidney disease, etc.)
3. Compare and contrast the anatomical differences between males and females
4. Follow the process of human reproduction from gamete production to fertilization
5. Investigate social issues pertaining to the reproductive system, including STIs, methods of contraception, and common disorders

III. THECB Learning Outcomes (ACGM)

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Define modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Describe phylogenetic relationships and classification schemes.
6. 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.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

IV. Evaluation

A. Pre-assessment:
At present there is no pre-assessment tool for the laboratory portion of Human Biology (BIOL 1109).

B. Post-assessment:
1. Quizzes/Exams: The number, frequency, and type of quizzes and exams is left to the discretion of the instructor.

2. Practical Exams: There will be at least two major practical exams during the semester.

3. Lab reports, journals, special projects: The instructor may opt to use additional assessment vehicles in determining the overall grade for the lab. These evaluation methods and their frequency will be left to the discretion of the individual instructor.

C. Grading Scale

The particular weight given to the above evaluation methods is left up to the instructor, but the overall grade for lab will be determined using the following grading scale:

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

V. Disability Statement (American 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.