Chaminade University 40

BIOLOGY 101 LECTURE/LAB SYLLABUS

In rector: John Schmerfeld (Phone- 377-9200; email - jschmerf@hpu.edu)

Meeting Dates/Times: January 12 -March 23, 1998; TTh 1730 - 2200

Course Descriptions:

Lecture: Introduction to Biology is a 3-credit course which surveys the major areas of biological science and emphasizes the structure and function of living things, how they interact with their environments, and how life evolved into present forms. General topics include biochemistry, cellular structure and function, genetics, energy systems, and evolution.

Lab: Biology 101 Lab is a 1-credit course designed to accompany and supplement information provided in Biology 101 Lecture. This course is designed to fulfill the following goals: (1) the application of principles and concepts presented in lecture: (2) to learn the structure and function of cells, tissues, and organs; (3) to obtain hands-on experience in conducting scientific experimentation; and (4) gain a greater appreciation for biology.

Course Objectives:

Lecture: At the end of the lecture course, the student will be able to: (1) understand the basic structure and involvement of atoms and molecules in chemical reaction; (2) explain how fermentation, photosynthesis and respiration are involved in cycling energy for organisms: (3) identify the basic parts of the cell and define their functions, (4) understand the roles of mitosis and meiosis in the continuity of life; (5) explain the role of DNA in protein synthesis and in the transmission of information from one generation to the next; (6) understand the basic principles of human genetics: and (7) discuss the relevance of evolution as a unifying principle of biology.

Lab: *At* the end of the lab course, the student will be able to: (1) explain the role of the scientific method as a mode of inquiry; (2) demonstrate the use of various scientific tools and techniques; (3) identify biological material at the macroscopic and microscopic levels; and (4) conduct, interpret, and report experimental data in written form.

Text:

Biology: Life on Earth. (4th Edition), by Teresa and Gerald Audesirk, Prentice Hall Publishing Co., 1996. There is no required lab text. Handouts will be provided as needed.

Attendance:

Students are expected to attend all classes and may receive grade level penalties for excessive absences. Students who are absent from class for legitimate reasons are still responsible for all assignments. Historically, there has been a strong correlation between attendance and final grades in this class. If you are absent during an examination, you must provide an acceptable excuse (e.g. medical excuse) before you are allowed to take a makeup. Makeup exams will be scheduled during the final week of class.

Grade Determination:

Lecture::	Exams 1-3	75%	*Lab:*	Lab reports	40%
	Assignments/Quizzes	20%		Lab exams	40%
	Participation & Attendance	5%		Pre-lab Quizzes	10%
				Presentation	5%
				Attend/Participation	5%

Lecture/Lab: *A =90-100%,* B = 80-89%, *C = 70-79%, D = 60-69°!0, F = <60%*

Academic Honesty.:

All students are expected to comply with the rules governing academic honesty as published by Chaminade University. Students involved with cheating or plagiarism will be issued failing grades for the examlassignment in question. Severe cases of dishonesty will be formally submitted to the Academic Dean for disciplinary review.

TENTATIVE LECTURE/LAB SCHEDULE

DATE		LECTURE	CHAPTER	LAB
January				
12	T	Course Introduction		Introduction to lab
14	Th	Introduction to Life Scientific Method	1	Film: Endocrine Disrupters
19	T	Atoms, Molecules and Life	2	# 1 Microscope, pH, Metrics *
21	Th	Biological Molecules	3	#2 Carbohydrates, lipids and proteins
26	T	Energy	4	#3 Enzymes
28	Th	Cell Structure and Function	5	#4 Cell structure
February				
2	*T*	EXAM 1 (Ch. 1-5)		(lecture exam)
4	Th	Bioethics Library Work		
	T	Cell Membrane	6	#5 Osmosis and Cell Membrane * *
11	Th	Photosynthesis	7	#6 Photosynthesis
16	T	Glycolysis and Cellular Respiration	8	LAB EXAM 1
18	Th	Cellular Reproduction	9	#7 Respiration * * *
23	T	DNA	10	#8 DNA 1, Sequencing
25	Th	Gene Expression	11	#8 DNA 11, Translation
March				
2	*T*	EXAM 2 (Ch. 6-10)		(lecture exam)
4	Th	Gene Exchange, Meiosis and Sexual Reproduction	1	#9 Film
9	T	Patterns of Inheritance	13	#10 Genetics Problem Set
11	Th	Human Genetics	15	LAB EXAM 2
16	T	Evolution	16	Film, Evolution in Hawaii
18	Th	Evolution, Course Rap-up		Bioethics Debate
23	T	EXAM 3 (Ch. 10-16)		

*** Class will meet in Henry Hall at Chaminade Main Campus on these evenings.