BI 101 -General Biology
Chaminade University of Honolulu

Fall, 1999
Mr. Gomes

LECTURE COURSE OUTLINE AND SYLLABUS

TEXT

Audesirk, Gerald and Teresa Audesirk. 1999. BIOLOGY: LIFE ON EARTH. 5T" Ed., Macmillan Publishing, Co.

COURSE DESCRIPTION:

The mission of the Biology Department is to provide students with "knowledge of living organisms and their environment and an appreciation of the scientific method." In order to accomplish this the department has made a commitment to providing a quality education that embraces measurable student outcomes, presents material in the most technologically advanced manner possible, and recognizes the diversity of its student body.

BI 101 - General Biology is the traditional non-majors biology course one expects to find in all university general education curriculums. What will make this course different from most is the small class size, student/peer assistance, and the utilization of up to date technologies, including computer software programs and other sophisticated pieces of equipment and assay kits. It is the intention of the Biology Department to provide the student with a course that is informative current, highly motivational, and thought provoking.

GOALS OF THE COURSE: At the end of the course each student should:

1. **know and understand the molecular and cellular basis of life;**
2. **know and understand basic Mendelian and molecular genetics;**
3. **know and understand the scientific method and how it applies to research analysis and evaluation;**
4. **have the opportunity for theoretical and practical biological experiences;**
5. **have an understanding of the unique flora and fauna of Hawai'l, when applicable;**
6. **have an understanding of the accomplishments, failures, vagaries, and future of the biological sciences drawing on examples and applications of principles in the areas of biomedical sciences, botany, and others.**

OBJECTIVES FOR STUDENTS: At the completion of the course the student will be able to do the following:

1. Discuss the scientific method;
2. Analyze a scientific problem with methods used in the sciences;
3. Use scientific terminology, specifically in the life sciences;
4. Perform Mendelian genetic crosses and problems;
5. Intelligently discuss issues like human transplants and genetic cloning;
6. Relate issues like plant breeding to human population considerations.

LECTURES:

1. Text assignments and lecture topics are listed in the lecture outline. Examination dates and other important dates are also listed in the outline.
2. Supplemental readings may be assigned during the course.
3. The instructor reserves the right to add or omit materials as he feels are necessary.

GRADE DETERMINATIONS:

1. Separate grades will be given for lecture and laboratory. It is possible, therefore, to receive different grades. for lecture and laboratory.
2. The instructor does not curve exam or grade scores. Grades will be given according to the scale below.
3. The final lecture exam is a comprehensive examination including topics from the first week of instruction..
4. The lecture grade will be determined in the following manner:

POINT SPREAD:		SCALE:
PARTICIPATION	50 POINTS	A = 90%
FIRST EXAM	100 POINTS	B = 80%
SECOND EXAM	100 POINTS	C = 70%
QUIZZES	100 POINTS	D = 60%
FINAL LECTURE EXAM	150 POINTS	
TOTAL POINTS	400 POINTS	

5. The lowest grade from the first exam, second exam or cumulative quizzes will be dropped. Therefore, your grade in lecture will be based on the two remaining scores and the final lecture exam. The final exam cannot be dropped.
6. Quizzes will be announced one class prior to the quiz.

7. Any quiz or exam the student fails to take at the appointed time cannot be made up unless a doctor's excuse is presented.
8. Incompletes are not normally given for any reason.

ABSENCES

Do not miss this class without an excuse. If you present some form of a document signed by your doctor then an absence can be excused. If you are experiencing some genuinely stressful situation other than illness (death in the family, abuse, pregnancy, etc.) let your instructor know and we'll see what we can do about it. Athletes - if you have to miss for a game or travel inform the instructor prior to your absence.

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LABORATORY COURSE OUTLINE AND SYLLABUS

TEXT

There is no text for this course. Laboratory experiments, other handouts and reference materials will be distributed several days prior to the lab. You are expected to have these read before class so that a minimum amount of time is spent on going over the material prior to lab versus actually doing the lab.

LABORATORY AIMS AND GOALS : The l**aboratory is designed to fulfill the following objectives:**

1. **To present principal methods or techniques as well as appropriate instruments utilized in cellular and organismal biology;**
2. **To allow investigation and problem solving by manipulative and experimental methodology;**
3. **To examine applications of principles and concepts presented in lecture such as in situ field trips;**
4. **To observe, identify, and discuss plants and animals including living and preserved specimens as well as Hawaiian and non-native species.**

OBJECTIVES FOR STUDENTS **:** At the completion of the laboratory course, the student will be **able to do the following:**

1. **Explain techniques of a particular experiment and use instruments, such as the microscope, balance, spectrophotometer, and pH meter;**
2. **Explain how the scientific method can be applied to a real life experiment and/or situation;**
3. **Perform simple Mendelian experiments and analyze the results;**
4. **Identify different glassware and equipment regularly used in laboratory work;**
5. **Use Powerpoint to present a 10 minute report on one aspect of scientific research.**
6. **Write a simple laboratory report.**

LABORATORY PREPARATION

1. It is expected that students will prepare for lab assignments listed on the lab schedule prior to the laboratory.

GRADE DETERMINATIONS

1. A separate grade is given for laboratory.
2. There is no curve for exams or final scores. The scale used is the same for lecture.
2. The same policies for incompletes, missed quizzes and absences as in lecture will be used.
3. Quizzes will be announced at least one period before the quiz date.
4. Two exams will be given. Each is a practical type of exam, i.e., each will have questions directed at something to look at, touch, etc.
5. The laboratory grade will be determined in the following manner:

POINT SPREAD:		SCALE:
PARTICIPATION	50 POINTS	
EXAM I	100 POINTS	90% = A
EXAM II	100 POINTS	80% = B
QUIZZES	100 POINTS	70% = C
LAB REPORT	25 POINTS	60% = D
POWERPOINT	25 POINTS	59% = F
TOTAL POINTS	400 POINTS	

ABSENCES

Do not miss this class without an excuse. Since we only meet 14 times the entire semester a single unexcused absence effectively means you've missed almost 10% of the course! That is comparable to missing 5 lectures of a course meeting M-W-F! Missing one lab without an excuse will definitely hurt your grade. If you present some form of a document signed by your doctor then an absence can be excused. If you are experiencing some genuinely stressful situation other than illness (death in the family, abuse, pregnancy, etc.) let your instructor know and we'll see what we can do about it. Athletes - if you have to miss for a game or travel inform the instructor prior to your absence.

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COURSE OUTLINE

WEEK	DATE	**TOPIC**	ASSIGNMENT
1	8/30/99	INTRODUCTION/MECHANICS	SYLLABUS
	8/31/99	*LAB - INTRODUCTION AND MECHANICS*	*SYLLABUS*
	9/1/99	INTRODUCTION TO LIFE	CH. 1
	9/3/99	THE ATOM	CH. 2
2	9/6/99	HOLIDAY - LABOR DAY	
	9/7/99	*LAB - MICROSCOPY*	*HANDOUTS*
	9/9/99	LAST DAY TO **ADD/DROP**	
	9/8/99	MOLECULES	CH. 2
	910199	LIFE	CH. 2
3	9/13/99	AND MORE LIFE	CH. 3
	9/14/99	*LAB - BIOMOLECULES*	*HANDOUTS*
	9/15/99	AND DEATH	CH. 3
	9/17/99	ENERGY FLOW	CH. 4
4	9/20/99	TO THE CELL **LAST DAY TO SUBMIT PETITION FOR DECEMBER, 1999** GRADUATION	CH. 4
	9/21/99	*LAB - ENZYME KIT*	*HANDOUTS*

	9/22/99	TO THE CELL	CH. 4
	9/24/99	THROUGH THE MEMBRANE	CH. 5
5	9/27/99	THE PROS	CH. 6
	9/28/99	*LAB - OSMOSIS*	*HANDOUTS*
	9/29/99	AND EUS	CH. 6
	10/1/99	AND CONS	CH. 6
	10/4/99	FIRST LECTURE EXAM	
	10/5/99	*LAB - KINETICS*	*HANDOUTS*
	10/6/99	PHOTOSYNTHESIS	CH. 7
	10/8/99	PHOTOSYNTHESIS	CH. 7
7	10/11/99	HOLIDAY - COLUMBUS DAY	
	10/12/99	*LAB - PHOTOSYNTHESIS*	*HANDOUTS*
	10/13/99	AND	CH. 7
	10/15/99	YEAST	CH. 8
8	10/18/99	AND CELLULAR RESPIRATION	CH. 8
	10/19/99	*LAB - FIRST LABORATORY EXAM*	
	10/20/99	AHHH!	CH. 8
	1022/99	THE SEARCH FOR D	CH. 9
9	10/25/99	-N-	CH. 10
	10126/99	*LAB - DNA KIT*	*HANDOUTS*

	10/27/99	A	CH. 10
	10/29/99	BACTERIA	CH. 11
10	11/1/99	AND FUNGI AND...	CH. 11
	11/2/99	*LAB - MITOSIS AND MEIOSIS*	*HANDOUTS*
	11/3/99	OTHERS	CH. 11
	11/5/99	SECOND LECTURE EXAM	
11	11/8/99	MENDEL	CH. 12
	11/9/99	*LAB - HUMAN GENETICS*	*HANDOUTS*
	11/10/99	NO CLASS	HANDOUTS
	11/12/99	NO CLASS LAST DAY TO WITHDRAW FROM CLASSES	HANDOUTS
12	11/15/99	BIOTECHNOLOGY	CH. 13
	11/16/99	*LAB - CORN AND CHI-SQUARE*	*HANDOUTS*
	11/17/99	BIOTECHNOLOGY PRE-REGISTRATION BEGINS	CH. 13
	11/19/99	CLONING	CH. 13
13	11/22/99	AND OTHERS	CH. 13
	11/23/99	*LAB - FORENSICS*	*HANDOUTS*
	11/24/99	EVOLUTION	CH. 14
	11/26/99	HOLIDAY - THANKSGIVING	
14	11/29/99	HISTORY	CH. 14

	11/30/99	*LAB - DA GAME*	*HANDOUTS*
	12/1/99	PRESENT	CH. 14
	12/3/99	FUTURE	CH. 14
15	*12/6/99*	EVOLVING	CH. 15
	12/7/99	*LAB - FINAL LABORATORY EXAM*	
	12/8/99	**EVOLVING AND ADAPTATION**	CH. *16*
	12/10/99	ADAPTATION LAST DAY OF INSTRUCTION	CH. *16*
16	*12/13/99 - 12/16/99*	FINAL EXAM WEEK	
	12/16/99	FINAL EXAM, 8:00-10:00, THURSDAY DECEMBER 16, 1999	
	12/17/99	LAST DAY TO SUBMIT PETITION FOR MAY, 2000 GRADUATION	
	12/18/99	BACCALAUREATE SERVICE AND AWARDS CEREMONY	
	12/20/99	FALL COMMENCEMENT	