BIOL 101 - GENERAL BIOLOGY
Section 001
Course Syllabus and Outline - Spring 2003

MEETING PLACE:  PB 13 Room 2

MEETING TIME:  Section 001 11:00 – 11:50 MWF

FINAL EXAM TIME:  Wednesday, May 14  9:40-11:40

INSTRUCTOR:  Dr. Grant Gerrish
Life Science Rm 5 (LS 5)
974-7362 (or leave message 974-7383)
grant@hawaii.edu

OFFICE HOURS:  Held in LS 5 or LS 16 (Laboratory)
Monday 9:00-10:00
Wednesday 9:00-10:00 and 1:00-3:00
Friday 1:00-3:00


COURSE OBJECTIVES AND CONTENT

This course is a standard freshman course for non-biology majors.  It is an introduction to what is known in the modern field of biology and emphasizes the scientific process of discovery.  The major topics of the course are ecology, genetics, evolution, biochemistry and human physiology.

The course relies equally on lecture material and the textbook.  The instructor will cover all important concepts in lectures and will strive to put the subject matter into the context of our everyday world.  The book provides details and diagrams that should help you understand the concepts as well as many examples of the practical applications of biological science.

IMPORTANT:  Daily class attendance is expected.  Information in this syllabus, especially test dates, may change and will be announced in class.

NOTE:  Lectures for each unit begin on first class day following tests.

LAST DAY TO SIGN UP FOR CREDIT/NO CREDIT – September 4
LAST DATE TO DROP CLASS with no permanent record- September 13
with ‘W’ on record – October 18
The student's grade will be determined by five tests and a final exam, equally weighted. Four tests will be on or about the days listed below; the fifth test will be given at the same time as the final exam on Dec 16. The final exam will be comprehensive (cover the entire course), but all the questions will be taken from the first four exams. The final exam will not be given to individual students before the scheduled date. Make your plans accordingly. Make-Ups for missed tests will be given only for good reason, and may consist entirely of essays. "Late Points" will be deducted for students who do not inform the instructor before test-time that they will be absent and arrange a make-up date.

Grading Scale:  

- A   90.0-100%
- B+  87.0 – 89.9%
- B   80.0 – 86.9%
- C+  77.0 – 79.9%
- C   70.0 – 76.9%
- C – 65.0 – 69.9%
- D   50.0 – 64.9%
- F   < 50.0%

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SCHEDULE

UNIT 1  
Aug. 26 What's in Our Food And Where Does it Come From?: Overview of Major Topics:  See attached Unit 1 reading list.

Sept. 16 Test # 1

UNIT 2  
Sept. 18 Ecology and Genetics: Chapters 29-30, 9-11
Oct. 7 Test # 2

UNIT 3  
Oct. 9 Genetics and Evolution: Chapters 12-14, 17-19
Oct. 28 Test # 3

UNIT 4  
Oct. 30 Biochemistry and Cell Biology: Chapters 2-8
Nov. 22 Test # 4

UNIT 5  
Nov. 25 Human Biology: Chapters 24-28
Dec. 16 Test # 5 and Final Exam

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Unit 1 Reading List

Unit 1 is an introduction to the main topics and themes of modern biology. I teach this overview first so that you will “see the big picture” and know where the course is going when we cover detailed material in the other four units. This reading list will help you with the topics presented in Unit 1.

Lecture 1: Science and Society
Chapter 1

Lecture 2: The Principle of Evolution
Chapter 16

Lecture 3: Ecosystems and Energy Flow
Pages: 660-663
692-706
116-121
152-156
18-32
47-63

Lecture 4: Genes and DNA
Pages: 170-176
190-192
206-210
60-61
268-275
123-125

Lecture 5: Successful Scientific Models
LEARNING BIOLOGICAL LANGUAGE

Learning the meaning of biological terms is a major step towards understanding biology. Never skip over a technical term that you do not know. In lecture, ask the instructor to define any word you do not know. There is a glossary in the back of the textbook that defines many terms.

It is useful to understand the parts of a word. Most scientific terms are based on Greek or Latin root words. These roots give a big hint to the meaning of the term. Learn all the Greek and Latin roots listed below. It will help you understand words...and they will be on the first test.

- macro- large. Example: macromolecule
- micro- small. Example: microorganism
- meso- in the middle.
- hypo- less than or under
- hyper- above or over. Example: hyperactive
- iso- the same. Example: isometric
- epi- on or above. Example: epilogue
- auto- self. Example: automatic
- homo- the same kind. Example: homosexual
- hetero- different kinds. Example: heterosexual
- cyto- of the cell. Example: cytoplasm
- proto- first or earliest. Example: prototype
- chloro- green. Example: chlorophyll
- -phyll- leaf.
- endo- within.
- peri- around. Example: perimeter
- pro- in front of, before.
- inter- between. Example: interact
- phyto-, -phyte plant
- ad- toward. Example: address
- ab- away from. Example: absence
- a- not, negation of term. Example: amoral
- -morph form or shape.
- -logos word, thought or speech. Example: logic
- bio- life. Example: antibiotic--kills living organisms
- photo- light. Example: photography
- botany the study of plants. From Greek: herbs or pasture
- zoology the study of animals.