COURSE NAME: General Biology I  
COURSE ALPHA: BIOL 171  
CREDIT HOURS: 03

CATALOG DESCRIPTION:
Introductory biology for all life science majors. Cell structure and chemistry; growth, reproduction, genetics, evolution, viruses, bacteria, and simple eukaryotes. (3 hrs. lect.)

REQUIREMENTS COURSE SATISFIES:

AT WCC: Partially fulfills AA degree Natural Science requirements as a biological science (Natural Sciences, Group 1).

AT UHM: Partially fulfills Natural Sciences area requirement (as a biological science) for the UHM General Education Core and for the Colleges of Arts and Sciences. This class may fill one of the major requirements for a Bachelor of Arts (BA) or Bachelor of Science (BS) degree in any of the biological sciences.

PREREQUISITES: CHEM 151 or 161 (or concurrent enrollment) or equivalent preparation or consent of the instructor

CO-REQUISITE: BIOL 171L or consent of the instructor

RECOMMENDED SPECIAL PREPARATION: High school biology

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COURSE WEBPAGE: http://krupp.wcc.hawaii.edu/BIOL171/Biol171.htm  
INSTRUCTOR'S WEBPAGE: http://krupp.wcc.hawaii.edu/  
WebCT LOGIN PAGE: http://webct.hawaii.edu/  
EFFECTIVE DATE: Fall 2006
COURSE GOALS
Upon completion of this course, you should:

- have an appreciation from how science attempts to understand the universe;
- understand the chemical basis for life and the characteristics that distinguish living things from inanimate matter;
- be introduced to and become familiar with the basic integrating principles of biology, including cell structure and chemistry, higher systematics, reproduction, genetics and evolution of living things.

COURSE OBJECTIVES
The student will describe and integrate basic biological principles and define basic biological terms presented in lecture and required texts, citing specific examples when asked for. These principles includes the following areas:

- the philosophy and characteristics of science and the scientific method;
- the difference between hypotheses, theories and laws in science;
- the definition of life and how living things differ from inanimate objects;
- how living things are classified and named; the characteristics used to classify living things;
- the chemical architecture of living things and the functions of the major groups of biological molecules;
- the parts, their structures and functions, of cells and how prokaryotic cells differ from eukaryotic cells;
- cell metabolism including specific anabolic and catabolic processes;
- cell growth and division processes, mitosis and meiosis;
- how genetic information is passed from parents to offspring and how this genetic information is expressed by cells;
- evolution as the unifying principle of biological science; and the evidence supporting evolution and natural selection.
- the characteristics and biology of viruses, prokaryotes, protists, and fungi.
- current hypotheses/theories regarding the origin of life, eukaryotic cells, sexuality, and multicellularity.

To help you achieve the course objectives, you may be provided with lecture outlines that include vocabulary terms and study questions. You should use these materials as guides to help you focus on what materials to study.

MODE OF INSTRUCTION
The previously described objectives will be achieved through the aid of the following learning activities:

- Assigned readings;
- Televised lecture and demonstrations;
- Computer-assisted and Internet-assisted activities;
- WebCT-administered course information (e.g. Bulletin Board);
- WebCT-administered quizzes examinations

The material presented in all modes of instruction will be of an introductory nature but sufficient in content to allow continuation in higher level biological science courses required for biological
science majors. Assigned readings will serve to provide background and supplemental information to provide a broad base for a basic study of biology. Class lectures will build upon this base, helping to focus the student on some of the more important details. Lecture study guides may be provided to help students focus upon the more significant details from the lecture and text. Multimedia presentations will graphically illustrate course content. Students may also be given the opportunity to access learning tools available through CD-ROM and Internet technologies. Internet resources will provide additional study aids such as sample examination questions and links to useful biology websites (the student may also communicate with the instructor through e-mail correspondence). Quizzes (taken through the Internet) and examinations (taken through the Internet at specific learning resource centers) will reinforce student understanding of the topics covered by testing the student’s knowledge of specific content.

EVALUATION OF OBJECTIVE ACHIEVEMENT

EXAMINATIONS. The student will take two non-cumulative midterm examinations (100 points each) and a cumulative final examination (150 points) to demonstrate understanding of information presented primarily during lectures. The first midterm examination will cover information presented during the first third of the course. The second midterm examination will cover information presented during the second third of the course. Two thirds of the final examination will emphasize the final third of the course, while one third of the final will draw on information covered during the first and second thirds of the course. The closed-book, proctored examinations will be administered through the Internet using WebCT at your campus’ Learning Center. NO RETESTS will be given. A student missing an exam because of a documented illness or emergency may be allowed to take a make-up exam. In such a circumstance, the student should make every reasonable attempt to contact the instructor before the exam is administered to the class (or as soon as possible). While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

QUIZZES. The student will take a minimum of ten quizzes (15 points each; 150 points total) administered through the Internet (WebCT) during specified time periods (but not during class sessions). These quizzes will address the detailed content and major concepts presented in the lectures, lecture outlines, text readings, and study guide activities. If the student takes more than ten quizzes, only the best ten quiz scores will be used in calculating the student’s total points. Since these quizzes may be taken using home computers connected to the Internet, students may refer to instructional resources (text, study guide, lecture notes, etc.) while taking the quizzes. However, the quizzes will be timed, the student having only 20 minutes to complete each quiz.

METHOD OF GRADING

The assignment of points will be according to the following protocol:

- Midterm Examinations (100 points each) 200 points
- Final Examination 150 points
- Quizzes (10 @ 15 points each) 150 points
- TOTAL 500 points

NO EXTRA CREDIT opportunities will be provided. The student should focus his/her attention on the information required for quizzes, and examinations.
Letter grades will be assigned as follows:

A-------- 90% or above in total points.
B-------- 80-89.9% of total points.
C-------- 65-79.9% of total points.
D-------- 55-64.9% of total points.
F-------- Below 55% of total points or informal or incomplete official withdrawal from course.
I-------- Incomplete; given at the INSTRUCTOR'S OPTION when student is unable to complete a small part of the course because of circumstances beyond his or her control. It is the STUDENT'S responsibility to make up incomplete work. Failure to satisfactorily make up incomplete work within the appropriate time period will result in a grade change for "I" to the contingency grade identified by the instructor (see catalog).
CR------ 65% or above in total points; the student must indicate the intent to take the course as CR/NC in writing by the end of the 10th week of classes (see catalog).
NC------ Below 65% of total points; this grade only available under the CR/NC option (see above and see catalog).
N------- NOT GIVEN BY THIS INSTRUCTOR EXCEPT UNDER EXTREMELY RARE CIRCUMSTANCES (e.g., documented serious illness or emergency that prevents the student from officially withdrawing from the course); never used as an alternative for an "F" grade.
W------- Official withdrawal from the course after the third week and prior to the end of the 10th week of classes (see catalog).

Waiver of minimum requirements for specific grades will be given only in unique situations at the instructor's discretion.

Students are expected to access the BIOL 171 WebCT site on a regular basis (i.e., at least twice per week). Students failing to access the BIOL 171 WebCT site for a period of greater than two weeks will be prevented from any future access to this site and the student will received an “F” for the course.

Students involved in academic dishonesty will receive an "F" grade for the course. Academic dishonesty is defined in WCC's college catalog.

**STUDENT RESPONSIBILITIES**

Students are expected to participate in all lecture activities and complete all course activities on time.

Students are expected to be prepared in advance before each televised session. Being prepared includes the following: having already read text materials (e.g., textbook readings, study guides and handouts) assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, writing supplies, etc.).

Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time in class or on the BIOL 171 WebCT Bulletin Board. It is the student's responsibility to be informed of these changes.

It is the student's responsibility to be informed about deadlines critical to making registration changes (e.g., last day of erase period and last day for making an official withdrawal.)
The student should understand that "INTRODUCTORY" DOES NOT MEAN "EASY". Students should expect a level of difficulty comparable to other 100-level science classes intended for majors in the discipline. When difficult concepts and detailed information are presented, it is the student's responsibility to take the appropriate steps to learn and understand these concepts and information.

Science courses at W.C.C. generally require two to three hours of independent private study time for each hour in class. However, because of the nature of the material presented in BIOL 171, more study time may be required (depends upon the student's science/biology background). It is the student's responsibility to allocate the appropriate time needed for study in an environment conducive to quality study. The student must budget time efficiently and be realistic about all personal and professional commitments that consume time.

**HOW TO SUCCEED IN THIS CLASS**

Understanding biological science involves understanding many difficult concepts and vocabulary, not just knowing facts. You should know that the details to these concepts are important. In addition, you will be introduced to hundreds of new words. In some cases, words that are familiar to you in a context other than biology will be introduced to you in the context of biology. You will need to understand and use these terms in a biological science context.

While you may refer to lecture outlines that include study guides, you will not succeed in this class unless you take your own careful lecture notes and read the corresponding material in the textbook. The lecture outlines are not to be used in place of your own note taking. As soon as possible (best if you do it the same day), copy over your lecture notes filling in gaps and missing information by referring to the lecture outlines and textbook. You should carefully review these rewritten lecture notes as often as possible. In addition to reviewing these notes before an exam, it would be useful to try to rewrite these notes from memory.

In addition to copying over your lecture notes, your study activities should include drawing your own labeled diagrams or graphs that illustrate important biological phenomena (e.g., the internal structure of the cell, the stages of cell division, or the population growth curve). These diagrams need not be works of art, but should clearly illustrate significant information. Before an exam, it would be useful to redraw these labeled diagrams and graphs from memory.

Make flashcards for each new vocabulary word you learn (refer to study guides provided for a list of terms). On one side write the word. On the other side write the appropriate biological science definition for the word. Test your ability to provide the right definition as often as possible. Practice using the word to explain biological concepts.

Write out answers to all of the study guide questions as though you were required to turn them in. Allow someone else to read your answers and give you feedback. Read someone else's answers and provide constructive feedback.

Read the textbook materials corresponding to a particular lecture before and after that lecture. Review this material before exams.
TEXTBOOK AND OTHER ASSIGNED INSTRUCTIONAL MATERIALS


Krupp, D.A., 2005. Biology 171 General Biology I Lecture Outlines and Study Guides (available only as individual Internet-downloadable pdf files from the course WebCT site)

Other reading assignments may be found on reserve in the library, provided in class, or accessed through the Internet.

OTHER INFORMATION

Important Dates:

- First day of instruction ......................... 21 August
- Last day to add a class ......................... 25 August
- Last day of erase period ....................... 10 September
- Last day for official withdrawal ............ 30 October
- Last day of instruction ....................... 07 December
- Exam period ................................... 11-14 December

Instructor’s Office Hours (or by appointment):

MWF 9:00 a.m. – 10:00 a.m.
Th 6:15 - 7:15 p.m.