

BIOL 124 Environment and Ecology

CRN 60144 * 03 Credits

TR 9:45 – 11:00 A.M.

INSTRUCTOR: David A. Krupp, Ph.D
OFFICE: Hale ʻImiloa 121A, Windward Community College
OFFICE HOURS: MW 10:30 – 11:20 a.m.; TR 8:30 – 9:30 a.m.
Or by appointment
TELEPHONE: 236-9121
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EFFECTIVE DATE: Fall 2010
COURSE WEBSITE: <http://krupp.wcc.hawaii.edu/BIOL124/Biol124.html>

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

A study of human ecology through the analysis of the interrelationships between science and technology, the means these provide for manipulation of environment and the effects of this manipulation on the environment and on human populations. Lecture course designed for non-science majors. (3 hrs. lect.)

REQUIREMENTS SATISFIED BY THIS COURSE

- AT WCC:** Partially fulfills Natural Sciences area requirements for the WCC General Education Core as a biological science lecture class (DB). Partially fulfills core requirements for the Academic Subject Certificate in Bio-Resources and Technology. May also be used in partial fulfillment of Marine Option Program certificate requirements.
- AT UHM:** Partially fulfills Natural Sciences area requirement for the UHM General Education Core as a biological science lecture class (DB). It may also partially satisfy requirements in specific degree programs (e.g., Natural Resources and Environmental Management; Environmental Science focus in Liberal Studies)
- AT UHWO:** Partially fulfills Natural Sciences (NS) area requirement for the UHWO General Education.

PREREQUISITES

None

STUDENT LEARNING OUTCOMES

By the end of this class, the student should be able to

1. Explain the process and philosophical basis of scientific inquiry.
2. Describe the basic principles of ecology, including population ecology, community ecology, and ecosystem function.
3. Describe the characteristics of the major biomes and ecosystems of the Earth.
4. Describe the interrelationships between land, sea, the atmosphere and the living things that occupy these environments.
5. Discuss the role that humans play in affecting the characteristics of the environment.
6. Evaluate current environmental issues and problems including the solutions and management practices that have been used or offered to address these issues and problems.

COURSE CONTENT AND TOPICS

This course will cover the following topics:

Science as a Way of Knowing	Forests and Parks
The Scope and of Environmental Science	Environmental Health and Toxicology
Environmental Economics	Geologic Resources
Environmental Policy	Watersheds and Freshwater Resources
Chemical Principles	Water Pollution
Energy and Life	Marine and Coastal Systems
Evolution and Biodiversity	The Atmosphere and Air Pollution
Basic Ecological Principles	Global Climate Change
Human Populations	Nonrenewable Energy Sources
Soil and Agriculture	Renewable Energy Alternatives
Biodiversity and Conservation Biology	Waste Management
Cities and Urbanization	

COURSE TASKS, ASSESSMENT AND GRADING

QUIZZES. The student will take a minimum of ten quizzes (15 points each; 150 points total) administered through the Internet (Laulima) 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, (there may be 13-15 quizzes in all) 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. In general, a quiz will be available for about a week (but the duration of availability period may vary from quiz to quiz). Students should expect to take at least one quiz per week. But sometimes more than one quiz will be posted at the same time. ***Because students will have the opportunity to drop several of their lower quiz scores, make-up quizzes will not be allowed for any reason, including but not limited to legitimate illness, family emergency, or computer problems such as computer crashes & Internet failures.***

EXAMINATIONS. The student will take one midterm examination (100 points each) and a non-cumulative final examination (100 points) to demonstrate understanding of information presented primarily during lectures. The first midterm examination will cover information presented during the first half of the course. The final examination will emphasize the final half of the course. The closed-book, proctored examinations will be administered through the Internet using Laulima at WCC's 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.

LECTURE NOTEBOOKS. Taking clear, comprehensive lectures notes is an important skill for success in college. These notes will be especially useful when taking quizzes, because the quizzes are open-book quizzes. Therefore students will be expected to take **handwritten** lecture notes during the lecture sessions. These notes must be **handwritten** into notebooks with pages pre-bound into them (e.g., a spiral-bound notebook or composition book). Loose-leaf notebooks nor stapled compilations of papers (nor similar unbound collection of notes) will not be accepted. Lecture notebooks will be reviewed and graded three times (25 points each review; 75 points for the semester) on the basis of their completeness. While students are expected to complete most of their note-taking while in class, they are welcome (and recommended) to add to, enhance and rewrite their notes outside of class.

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

Quizzes	150	points
Lecture Notebooks	75	points
Midterm Examination	100	points
<u>Final Examination</u>	<u>100</u>	<u>points</u>
TOTAL	425	points

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 may be given only in unique situations at the instructor's discretion.

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

LEARNING RESOURCES

Required Textbook

Withgott, J., and S. Brennan. 2009. Essential environment: the science behind the stories. Third Edition. Benjamin Cummings. San Francisco.

Lecture outlines, PowerPoint slides, and other resources will be made available at the course Laulima site.

STUDENT RESPONSIBILITIES

- The student is expected to attend and actively participate in all course lectures and activities, and complete all quizzes, assignments and examinations on time.
- The student is expected to be prepared in advance before the class sessions. Being prepared includes the following: having read text materials assigned for that day's activities and bringing required work materials (e.g., textbook, handouts, etc.) to the session.
- Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time in class and/or on the course Lualaba site. It is the student's responsibility to be informed of these changes. Students should visit the course Lualaba site at least twice per week.
- 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 expect a level of difficulty comparable to other 100-level science classes intended for non-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 WCC generally require three hours of independent private study time for each hour in class. The student must budget time efficiently and be realistic about all personal and professional commitments that consume time.

STUDENT BEHAVIOR IN THE CLASSROOM***The following behaviors are encouraged while class is in session:***

- Quietly listening and diligently taking notes.
- Raising a hand to speak or ask a question.
- Asking questions about content being presented.
- Making thoughtful and/or challenging comments about content being presented.
- Responding to the instructor when asked a question.
- Treating each other with respect and courtesy.

The following behaviors are not permitted while class is in session:

- Arriving to class late and/or leaving the classroom before the session is over.
- Interrupting presentations with unsolicited statements or boisterous or annoying behavior.
- Talking with another student while a presentation is underway.
- Using cell phones or social networking (e.g., Facebook, Twitter, email, etc.) on digital communication devices (e.g., iPhones, iPads, laptops, etc.).
- Making comments that are not relevant to the topics being discussed.
- Making derogatory and/or defaming comments about another individual.
- Making inappropriate and/or unwanted statements to another individual.

Students engaging in any of these undesirable behaviors may be asked to leave the classroom. If the offense is severe and/or repeated, the student may be referred to the Vice Chancellor of Students Services for appropriate disciplinary action.

HOW TO SUCCEED IN THIS CLASS

- Understanding biological and environmental science involves understanding many difficult concepts and vocabulary, not just knowing facts. The student should know that the details to these concepts are important. In addition, the student will be introduced to hundreds of new words. In some cases, words that are familiar in a context other than science will be introduced in the context of science. The student will need to understand and use these terms in a biological and/or environmental science context.
- While the student will have lecture outlines (downloadable from the Laulima site), the student will not succeed in this class without taking careful lecture notes and reading the corresponding material in the textbook. The downloadable lecture outlines are not to be used in place of the student's own note taking. As soon as possible (best if done on the same day), the student should copy over these lecture notes filling in gaps and missing information by referring to the lecture outlines and textbook. The student should carefully review these rewritten lecture notes as often as possible. In addition to reviewing these notes before an exam, it would be useful for the student to try to rewrite these notes from memory.
- In addition to copying over lecture notes, study activities should include drawing labeled diagrams or graphs that illustrate important biological or environmental phenomena. 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.
- The student should make flashcards for each new vocabulary word presented (refer to lecture outlines for a lists of required terms). On one side of the card, write the word. On the other side, write the appropriate definition for the word. The student should use these card for self-testing as often as possible. The student should also practice using the words to explain biological/environmental concepts.
- The student should do all of the recommended study guide activities and review all of the Internet resource materials provided.
- The textbook and the lecture outlines include useful study questions. The student should write out answers to all of these questions as though they were required assignments. Students could exchange these answers and provide constructive feedback to each other.
- The textbook publisher may provide a website that presents activities that support student learning. The student is should take advantage of this website if available.
- The student should read the textbook materials corresponding to a particular lecture ***before and after*** that lecture.
- Students are recommended to establish study groups and study together. The students in these groups may test each other's knowledge and understanding of the information. They may also take turns teaching each other.
- The student should ask the instructor to explain the things that the student does not understand.

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.