Spring 2011

ALICE LLOYD COLLEGE
COURSE OUTLINE

Course Number and Title: BIOL 101 Environmental Biology

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Office Hours: posted at office door

Prerequisite(s):

Course Description:

A basic study of Environmental Biology. The course includes an analysis of major issues in environmental biology. Students will use scientific methodology to analyze issues, including relevant quantitative methods. The course is designed to meet the needs of students who are non science majors.

Objectives of the Course:

This course will enable the students to become familiar with the science behind issues in environmental biology. Students will become familiar with the natural processes associated with environmental issues. Issues will be addressed from a cost/benefit perspective, and students will have to look at issues from both perspectives.

During the course, students will:

1. Become familiar with the natural phenomena associated with environmental biology.
2. Become familiar with the scientific terminology associated with environmental biology.
3. Become familiar with ecosystem function and the consequences of disruptions of ecosystem function.
4. Become familiar with human ecological needs.
5. Become familiar with different scientific points of views on key issues in environmental biology.
6. Become familiar with the consequences of personal resource use decisions.
7. Become familiar with aspects of our society that have incorporated information from environmental biology.

The information presented during this course will be focused on specific problems. Students will be required to synthesize information into written and oral responses to key problems presented during the course as a means of developing abilities to effectively integrate and communicate information regarding science related topics.

Requirements for the Course:

Students will be required to:

1. attend scheduled class lectures, take all exams and quizzes, and complete all written assignments.
2. read regularly the assigned text material and associated supplementary readings.
3. participate in laboratory exercises, with the purpose of analyzing specific phenomena in depth.
4. demonstrate an understanding of the science associated with environmental issues.
5. demonstrate the ability to integrate knowledge into an understanding of the consequences of human resource use as well as issues associated with human resource use.
6. participate in group tasks, oral discussions, and individual efforts as apply to the responsive questions and critical-thinking tasks.

Technology:

Students will be encouraged to access on-line resources and websites that supplement their class lecture and laboratory readings.

Diversity:

Environmental biology is a global concern. This course will be presented from a global perspective. An assessment of different points of view is a major theme of this course.

Resources and Materials:

Textbook:

Berg Linda R. and Mary Catherine Hager. 2009. *Visualizing Environmental Science.* 3rd Edition. Wiley. ISBN 978-0-470-11858 (**REQUIRED**)
Associated website: *http://www.wiley.com/college/berg*

Laboratory manual:

Wagner, Travis and Robert Sanford. 2010. *Environmental Science*. 2nd Edition. Wiley. ISBN 978-0-470-08767-1 (**REQUIRED**)

Attendance Policy:

Attendance is required for all scheduled lectures as well as the laboratory sections. ***Prompt arrival to class is expected***. As per ALC policy, any student with an absentee rate ≥ 20%, *regardless of whether the absences are excused or*

unexcused, will fail the course. It is the *student's responsibility* to make every attempt to contact the instructor in advance to notify her of officially excused absences (e.g., professional school interviews, participation in college sanctioned events, etc.) in order to make alternative arrangements to complete any work that would be due during the excused absence. It is the *student's responsibility* to contact the instructor as soon as possible following any unforeseeable emergency (e.g., illness, accident, family emergency, etc.) in order to be given any extensions on deadlines for completion of any missed assignments. It is the *student's responsibility* to clear any absences with the Office of the Academic Dean. It is the *student's responsibility* to complete any and all assignments and to turn them in to be graded in a timely manner.

Make-up and late policies:

Lab assignments or take-home assignments are due at the time and date specified by the instructor. Students who have an excused absence for a laboratory session *are expected to complete any assignments* that were made or that were due during the missed lab session. A past-due assignment will no longer be accepted from any student after that assignment has been graded and returned to the rest of the class. Past-due assignments will no longer be accepted once Final Exams Week begins, EXCEPT under severe intolerable circumstances with appropriate documentation and strong suggestive support from the Academic Dean.

Policy on Plagiarism:

The ALC faculty has officially adopted the following policy on plagiarism:
"Plagiarism is the act of using another's idea or expression in your writing without acknowledging the source…In short, to plagiarize is to give the impression that you have written or thought something that you have in fact borrowed from someone else" (21)
"Plagiarism often carries severe penalties, ranging from failure in a course to expulsion from the school."
"The most blatant form of plagiarism is to repeat as your own someone else's sentences, more or less verbatim…" (22)
"Other forms of plagiarism include repeating someone's particularly apt phrase without appropriate acknowledgement, paraphrasing another person's argument as your own, and presenting another's line of thinking as though it were your own…"(23)
Source: Gibaldi, Joseph. *MLA Handbook for Writers of Research Papers*. 3rd ed. New York: Modern Language Association of America, 1988.

Grading:
The final grade for the course will be calculated based on the following formula:

Weekly exams (collectively) ……..20% of total grade
Final Exam……...25% of total grade
Problems (collectively).…….....20% of total grade
Individual presentation……10% of total grade
Laboratory (including laboratory exams)* 25% of total grade
Final Score (out of 100 points**)**

The following scale will be used for assigning a letter grade for midterm and final grades:

A = 90-100
B = 80-89
C = 70-79
D = 50-69
F = ≤ 49

Lecture Schedule:

Lectures will be in Tuesdays and Thursdays. Each lecture will be divided into two sections. An exam will be given each week during the second half of the lecture period. The exam will not include material from the first half of that period.

We will cover the entire textbook during the semester.

Chapters 1 and 2
Chapter exam

Chapter 3
Chapter exam

Chapter 4
Problem set and Chapter exam

Chapter 5
Chapter exam

Chapter 6
Chapter exam

Chapter 7
Problem set and chapter exam

Chapters 8 and 9
Chapter exam

Chapters 10 and 11
Problem set and chapter exam.

Chapter 12
Chapter exam

Chapters 13 and 14
Chapter exam

Chapters 15 and 16
Problem set and chapter exam

Chapters 17 and 18
Chapter exam

Student presentations

Evaluation:

Chapter exams:

There will be at least 11 chapter exams during the semester. The top 8 of those exams will be used to calculate the 20% of your grade attributed to weekly exams.

Problem sets:

There are 4 problem sets assigned during the semester. Problem sets are written responses to issues raised during previous lectures. Problem sets will be used to calculate the 20% of your grade. Each problem set is worth 5% of your total grade. Problem sets are due one week from the date they are assigned.

Individual presentations:

Students will individually make presentations during the last week of classes. The individual student presentation will be worth 10% of your total grade.

Laboratory:

Laboratory #1. Writing Laboratory Reports
Lab Manual Page 4.
Pre Lab for lab 2.
Laboratory #2. Science and the Popular Media
Lab Manual Page 19.
Laboratory #3. Scientific Method 1
Lab Manual Page 153.
Laboratory #4. Scientific Method 2. Lab Manual page 157.
Laboratory #5. Quantification of Scientific Problems. Lab Manual page 163.
Laboratory #6. Video: Harvest of Fear.
Lab Exam #1. (not including Harvest of Fear)

Laboratory #7. Design experiment. Environmental Contamination. Lab Manual page 49.
Laboratory #8. Make up for Harvest of Fear Video Missed.
Laboratory # 9. Set up Environmental Contamination experiment.
Laboratory #10. GMO experiment: PCR
Laboratory #11. GMO Experiment: Analysis of data. Completion of Environmental Contamination experiment and analysis of data.
Lab Exam #2.

Lab Evaluation:

Written exercise for each of 1st 5 labs worth 1.0% of total grade
Total of 5% for written lab exercises
Harvest of Fear questions: 2% of final grade
Lab reports on GMO and Environmental Contamination experiments each worth 4% of total grade.
Lab reports worth 8% of total grade.
Lab exams each worth 5% of total grade
Total of 10% for lab exams

Total value of lab: 25% of total grade.