

**Biology 315 -- Ecology and Human Impacts on the Environment  
Fall 2009**

***“Never doubt that a small group or thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.”***

Margaret Mead

**COURSE SYLLABUS**

**Instructor:** Dean Leavitt

**Class hours:** MWF 11:00-11:50 am in LS 248

**Office:** Life Sciences (LS) 265

**Office hours:** MW 12:00-1:00 pm and by appointment

**Email:** [dhleavitt@gmail.com](mailto:dhleavitt@gmail.com)

**Phone:** 619-594-6321

**Blackboard -- online course materials**

What you'll find:

All course information (e.g. syllabus, assignments, lecture material) will be under the "Course Information" tab.

- Lecture outlines will be made available online.
- Other pertinent information or announcement will also be posted.
- Check Blackboard for announcements

**Course description and goals**

This course focuses on human impacts on the environment, how in turn humans are impacted, and what can be done about it. This is not a class about ecology *per se*, but you are expected to be familiar with ecological terms and principles. We will examine how human activities affect ecological and environmental processes, considering both biotic and abiotic components. We will look at the importance of biodiversity, conservation, aquatic and terrestrial pollution, environmental laws and regulations, human and ecological “health”, human population growth, renewable and nonrenewable resources and the concept of sustainability.

**Learning objectives**

1. Summarize critical environmental challenges, as well as possible solutions, that we are facing today, such as population growth, resource utilization, pollution, food production, land use, waste management, ecosystem and human health, and biodiversity.
2. Describe human-induced chemical and biological changes in the environment, their impacts and potential ramifications
3. Describe the advantages and disadvantages of various approaches to resource utilization, energy and food production, and ecosystem management
4. Describe practices that promote sustainable use of resources, and how you can help.

### **Assignments and grading:**

Weekly homework assignment **100 pts**

Volunteer assignment **50 pts**

Book report **100 pts**

Midterms: 2 @ 100 pts each **200 pts**

Final (non-cumulative) **100 pts**

**Total points: 550 pts**

### Lecture and Reading

Information that you'll be expected to be familiar with will be presented during lecture or assigned as reading assignments. A lecture outline will be made available on Blackboard by the evening prior to class. This semester there is no required text book – if you'd like a recommendation for a text to supplement your learning come talk to me. Required reading will either be made available electronically through Blackboard or in class. Class participation during lecture is greatly encouraged! If you have questions or points you'd like to point out, raise your hand.

### Homework

Homework is due every Wednesday except for those when we don't have class. There are eleven such days; you are required to do an assignment for **ten** of them (10 points each). Unless another assignment is specified, a one-page typed, single-spaced review of a current new item is due. The "news" item must be a report of a new and **relevant** research report, political policy, etc. The report should include the source (e.g., url of the online article), a summary (1/3 page), relation to the class (1/3) and relevance to you (e.g., how it affects you, what you can do; 1/3 page). Of course, include your name and student id.

### Book Report

During the semester, you will be expected to read a book relevant to our class. A list of potential books is listed in the syllabus. Other books are certainly options, but if they're not on the list, *you must get my approval prior to handing in your book report!* You must choose (and hopefully start reading your book) by October 5<sup>th</sup>. **The report must be at least 5 pages long single-spaced**, including: at least two pages of summary, one page of your critique, one page of suggested society change and one page of personal relevancy. The book report is due by the last day of class, but you may turn it in earlier.

### Volunteer assignment

You will volunteer at one of the many environmental groups here in San Diego for at least 3 hours. Activities include beach clean up, trail restoration, planting native vegetation, or volunteering at the municipal landfill and recycling center. You will be given a form for the group coordinator to sign/stamp, and a few questions to answer. This assignment can be performed anytime during the semester, but must be turned in by the last day of class.

Don't wait until the end of the semester! The earlier you get this done, the better off you are!

### Exams

Exams are based on what is presented in lectures and the reading assignments. All exams are closed book, closed notes, closed mouths. Missed exams may not be made up without arrangement *prior* to the exam date. If you have unforeseen problems that prevent you from attending an exam on time, or attending an exam at all, you must have a *written* record of this (e.g., hospital admission receipt, etc.).

### Topics for Lecture

Environmental problems, Sustainability, Science

Connections in nature

Evolution and biodiversity

Community & population ecology

Humans and their place in nature

Ecological collapse

Sustaining biodiversity

Biodiversity and the ocean

“Gardenification”

Food, soil and pest management

Economics, politics, regulations

Water and aquatic ecosystems

Human population growth

Energy issues

Environmental hazards, Pollution

Climate change

Resource reduction

Recycling

## Schedule

M  
**Aug.** 31 First Day of Class  
**Sept.** W 2 Class  
F 4 Class  
M 7 Labor Day **NO CLASS**  
W 9 Class  
F 11 Class  
M 14 Class  
W 16 Class Homework due  
F 18 Class  
M 21 Class  
W 23 Class Homework due  
F 25 Class  
M 28 Class  
W 30 Class Homework due  
**Oct.** F 2 **First Midterm Exam**  
M 5 Class Deadline for choosing a book  
W 7 Class Homework due  
F 9 Class  
M 12 Class  
W 14 Class Homework due  
F 16 Class  
M 19 Class  
W 21 Class Homework due  
F 23 Class  
M 26 Class  
W 28 Class Homework due  
F 30 Class  
**Nov.** M 2 Class  
W 4 **Second Midterm Exam**  
F 6 Class  
M 9 Class  
W 11 Veterans' Day **NO CLASS**  
F 13 Class  
M 16 Class  
W 18 Class Homework due  
F 20 Class  
M 23 Class  
W 25 Class Homework due  
F 27 Thanksgiving **NO CLASS**  
M 30 Class  
W 2 Class Homework due  
**Dec.** F 4 Class  
M 7 Class  
W 9 Class Homework due  
F 11 Last day of class & book report due  
M 14 **Final Exam 10:30-12:30**

## Potential Books

Affluenza: The All-Consuming Epidemic

John de Graaf

Collapse

Jared Diamond

Hot, Flat, and Crowded

Thomas L. Friedman

The Omnivore's Dilemma: A Natural History of Four Meals

Michael Pollan

Plan B 3.0: Mobilizing to Save Civilization

Lester R. Brown

The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability

James Gustave Speth

Natural Capitalism: Creating the Next Industrial Revolution

Paul Hawken

The Sustainability Revolution: Portrait of a Paradigm Shift

Andres R. Edwards & David W. Orr

Cradle to Cradle: Remaking the Way We Make Things

William McDonough

The Ecology of Commerce: A Declaration of Sustainability

Paul Hawken

Deep Economy: The Wealth of Communities and the Durable Future

Bill McKibben

The Weather Makers: How Man Is Changing the Climate and What It Means for Life on Earth

Tim Flannery

The Future Eaters: An Ecological History of the Australasian Lands and People

Tim Flannery

Field Notes from a Catastrophe: Man, Nature, and Climate Change

Elizabeth Kolbert

Cadillac Desert: The American West and Its Disappearing Water

Marc Reisner

When the Rivers Run Dry: Water--The Defining Crisis of the Twenty-first Century

Fred Pearce