

Oklahoma Baptist University
Department of Biology
Hurley College of Science and Mathematics
ENVIRONMENTAL BIOLOGY: BIOL
3034, Fall 2011

Lecture: Tuesday and Thursday, 9:30-10:45, Wood Science 118

Laboratory: Tuesday, 2:00-5:00 pm, Wood Science 115

[| Biology Home Page](#)

Professor	Office	Phone	Hours	Email
Dr. Dale Utt	WS 119-D	878-2042	MF 10-11, F 2-3	Dale.Utt@okbu.edu

Course Description

- **Catalog Description:** "A study of ecosystems biogeochemical systems, energy flow and food webs, populations and communities, interactions among species, influence of physical environment, homeostasis and succession, habitats, biogeography, ecology and human welfare, ecological aspects of natural selection, symbiosis and competition."
- **Program Objectives:** In keeping with the overall goals of the Science Division, this course is designed to provide students with the opportunity to enhance their understanding of complex biological subject matter and to develop the skills necessary for independent and critical analysis of complex phenomena, data, and observations encountered in the scientific endeavor. In this multidisciplinary approach, our academic exploration will include but will not be limited to analysis of anatomical, physiological, ecological, evolutionary, genetic, and cellular systems in plants animals and microbes. Emphasis will be placed on developing the students' skills in inquiry-based problem solving, design and execution of experiments, interpretation of experimental data, and presentation of experimental results in both written and oral format. Moreover, it is the intent of this course to enhance the students' understanding of the interconnectedness of the sciences by relating the major concepts of chemistry, earth/space sciences, and physics, to the Biological sciences; and to emphasize and apply mathematical concepts, including statistics and pre-calculus to investigations in biology and the analysis of data. Finally, it is the goal of this course to provide an environment in which

the students can explore the relatedness of historical, sociological, technological, and ethical issues and developments to the study of contemporary Biology.

Prerequisites

- **Biology 2044 or permission of the instructor. Laboratory is required.**

Reading

- **Living in the Environment, 17th ed.**: By: G.T. Miller & Spoolman
 - Students are expected to have made thorough preparation for each class period. Well-prepared students will be those who have made an honest attempt to read these sections and master these concepts PRIOR to coming to class, for, unfortunately, seventy-five minutes is insufficient time to cover every topic in great depth. You are expected to master all the concepts regardless of whether or not we have specifically covered them in class. Therefore, be prepared to ask questions, as much of the class period will be devoted to addressing concepts with which you may be having difficulty.

Requirements

- **Format and Grading**
 - **EXAMS:** There will be four major exams and a comprehensive final, all of equal value.
 - **LABORATORY:** Attendance at all laboratory sessions is required. I expect to be informed in advance if illness or some other emergency prevents your attendance in lab or lecture. For specific topics and laboratory requirements see lab syllabus.
 - **GRADES:**

3 Exams:300 total points (100 points each)

Final Exam:100 points

Lab Reports:150 points (50 points each)

Video Reports:150 points (10 points each)

Oral Country Report:50 points

TOTAL:750 POINTS

A (100-90),B (89-80),C (79-70),D (69-60),F (59 and below)

- **Late Assignments:** Arrangements for make-up exams must be made at least 24hrs in advance of the test date and will only be granted in cases of extreme illness or family emergency. Other reasons may be considered at the discretion of the instructor and the grade for that assignment will be reduced by a minimum of a full letter grade from the score achieved on the make-up exam.

Office Hours

- My office hours are Monday and Friday 10-11 and Friday 2-3. You can also make an appointment to meet with me at other times. If you stop by my office at the designated times and I am not in, you will probably find me in the laboratory preparing for class or working in the museum area.

Disabilities

- Oklahoma Baptist University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Students with disabilities who need special accommodations must self-identify and submit acceptable documentation to the Student Services office located in the Geiger Center, Room 101.

ADDITIONAL IMPORTANT INFORMATION FOR OBU STUDENTS

Please refer to the following link,
http://www.okbu.edu/academics/forms/Syllabus_Attachment_Fall11.pdf for important information regarding class attendance policies, academic policies and expectations, tutoring information, library hours, important dates and holidays, inclement weather policies, chapel attendance policies and more.

Lecture Schedule

Date	Topic	Core Reading
Aug 25	Environmental problems and their causes.	Chapter 1, "Land of the Eagle: Across the Sea of Grass "
Aug 30	Environmental history.	S-5, The American Experience: " Rachael Carson's Silent Spring "*
Sept 1	Matter & energy resources: types and	Chapter 2, "Lost Gods of Easter Island"

	concepts	
Sept 6	Ecosystems and how they work.	Chapter 3, "Intimate Strangers: Tree of Life, Keepers of the Biosphere "*
Sept 8	Biodiversity, niches & adaptation.	Chapter 4, "The Living Planet: The Desert "
Sept 13	Climate & biomes. Community ecology & succession	Chapter 5, S-8, S-9 Chapter 7 " Eruption of Mt. St. Helens ", " Return to Mt. St. Helens "*
Sept 15	Aquatic ecology.	Chapter 8, " Blue Planet: Open Ocean "
Sept 20	" The Living Planet: Sweet Fresh Water "	EXAM I
Sept 22	Population ecology. Human population dynamics	Chapter 6, S-3
Sept 27	Terrestrial Biodiversity: Ecosystems, " Hotspots "	Chapter 10, S-4, Audubon: " Wildfire ", " NOVA: Sex and the Single Rhino "*
Sept 29	Sustaining Biodiversity: Species, extinction	Chapter 9 Sci Am Frontiers: " Alien Invaders "
Oct 4	Aquatic Biodiversity	Chapter 11, " Galapagos Beyond Darwin "*
Oct 6	Biodiversity continued	Chapters 9, 10, 11
Oct 11	Living Edens: "Madagascar"	EXAM II
Oct 13	Food and Soil resources, Pesticides	Chapter 12, The American Experience: "The Dust Bowl" " Empty Oceans, Empty Nets "
Oct 18	Water	Chapter 13, " Empty Oceans, Empty Nets " " Great Wall Across the Yangtze "*
Oct 20	Fall Free Days	No Class
Oct 25	Geology and Nonrenewable Mineral Resources	Chapter 14, " Earth Revealed: Birth of a Theory, Plate Tectonics " NOVA: " Harvest of Fear " *
Oct 27	Nonrenewable energy resources.	Chapter 15, " Chernobyl Heart "
Nov 1	Risk, toxicology and human health.	Chapter 17, "48hrs: In the Danger Zone ", " Ebola: The Plague Fighters "*
Nov 3	Renewable energy.	Chapter 16, " Can Buildings Make You Sick? "
Nov 8	Climate change & ozone loss.	Chapter 19, " After the Warming ", " Global Warming: The Signs & The Science "*
Nov 10	Air & Water Pollution	Chapter 18 & 20 " Dimming of the Sun "
Nov 15	"Cousteau: Alaska Outrage at Valdez "	EXAM III
Nov 17	Solid and hazardous waste	Chapter 21, " Frontline: Global Dumping Ground "
Nov 22	Sustainable Cities	Chapter 22, " Save Our Land, Save Our Towns "*
Nov 23-	THANKSGIVING HOLIDAY	No Class

27		
Nov 29	Environment & Economics	Chapter 23, 25Environmental Ethics*
Dec 1	Environment & Government	Chapter 24
Dec 6	"The World Without Us"	Country Reports*
Dec 8	Country Reports	
	FINAL EXAM - TUE. DEC 13 3:15-5:15PM	