

## Upper Division Theme D: Environmental Issues

The Environmental Issues Theme aims to achieve these central goals and objectives:

1. impart an understanding and appreciation for the place of the human species in the global ecosystem,
2. examine the ways the environment has influenced human behavior,
3. provide skills and information necessary to assess human environmental impacts
4. pursue ways to maintain Earth's life-support systems.

In order to provide unity and coherence, each course in the Environmental Issues Upper Division Theme has been designed by theme instructors in consultation with one another to employ a core set of concepts, theories, issues, pedagogical approaches and activities.

### Concepts/Theories common to all theme courses:

- Interconnectivity – the ecological principle: highlighting the interrelationships that characterize the natural order and the place of humans in that order
- Unintended Consequences – the precautionary principle: caution is the best policy when altering the environment, due to the difficulty of foreseeing all the consequences of human activity
- Plurality of Worldviews – value pluralism: diverse interpretations of the relationships between humans and nature
- Disciplinary Perspectives – problems of evidence: what counts as knowledge and what counts as evidence depend on criteria that are often discipline specific

### Issues common to all theme courses:

- Resource Use (Food, Water, Energy, Shelter)
- Human Population / Consumption
- Biodiversity Loss
- Global Warming / Climate Change

### Approaches common to all theme courses:

- Common vocabulary – employing and explaining key terms across theme courses, for example, “ecological consciousness, biocentrism and anthropocentrism.”
- Spirit of Hope – A solution orientation so students emerge from theme courses with ideas and direction to address humanity's current environmental crises
- California Focus – Reference to the special environmental problems and opportunities presented by California's unique social, political, economic and ecological identity
- Sustainability – Attention to the broader environmental questions raised by human development as concerns the economy, social equity, and the environmental consequences of human development

### Activities common to all theme courses:

- Ecological Footprint – activities dealing with the impacts of various human production and consumption patterns
- Civic Engagement – projects designed to take students outside the classroom to make an impact on the community with what they have discovered in class

### Student learning objectives for Conservation Biology (Biol 334)

each student should be able to demonstrate the following:

1. the basic principles of evolutionary theory and relate them to real-life situations.
2. the basic principles of ecological theory and relate them to real-life situations.
3. the basic principles of conservation theory and relate them to real-life situations
4. an understanding of the inherent interconnected nature of all life on this planet.
5. an understanding of the nature of biological diversity and the implications of this for conservation.
6. an understanding of the moral and ethical issues associated with conservation biology.
7. an understanding of the place of the human species in the global ecosystem.
8. how humans impact the environment.
9. examples and/or illustrations of ways to maintain our planet's life-support systems.

10. formally communicate biological information using written communication skills

"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise." Aldo Leopold, ecologist, forester, and environmentalist

## Biology 334 Conservation Ecology - Course Information

Shelly Kirn, M.S. (254 Holt Hall)  
email: sakirn@csuchico.edu

898-5757: office hrs - W/Th 9-11 and appt.  
web site: [http://www.csuchico.edu/~mmarchetti/classes\\_and\\_syllabi.html](http://www.csuchico.edu/~mmarchetti/classes_and_syllabi.html)  
this is where you can download the required reading!

"In the past 24 hours the planet added 209,000 babies, lost 104,000 acres of rainforest, added 41,000 acres of desert, lost 215 million tons of topsoil, added 4 million tons of carbon to the atmosphere, and lost about 75 species.... And we get to do it again tomorrow."  
- D. Orr 1992

**Course Goals:** The primary goal of BIOL 334 is to introduce you to basic concepts of ecology and conservation biology. We will often focus on California, and how the natural history, ecology and issues within our state relate to topics elsewhere in the US and abroad. The information contained in this course should also provide of some of the intellectual tools necessary to understand the worldwide environmental crisis we are living through, and perhaps some possible solutions. I also expect to help you develop a deeper appreciation for the intricacy and beauty of natural systems. Because BIOL 334 is also a General Education course, attention will be placed on honing general study skills through the exams and the presentation.

**Note that after second week you cannot drop or add the class without a serious and compelling reason.**

**Textbook:** We will be using a new non-majors introductory biology text written by M.P Marchetti and P. B. Moyle, published by UC Press. Unfortunately the textbook is not on the shelves yet and so you will be able to get the textbook from the web site listed above where you can download it. Unfortunately due to copyright issues, there are no figures presented, so you will have to come to class in order to get the figures that will allow you to study for the test. Keep in mind; in order to appreciate and study the field of conservation biology, a solid grounding in the ideas and terminology of evolution, natural selection and general ecology is necessary (ie you need to read the book!!).

**Exams:** The exams (three midterms and final) will be short essay format. There will be a sheet with approximately 30 questions handed out one week before the exam, and the exam will come directly from that list. **As I am essentially giving you the exam ahead of time, I expect complete and well-crafted answers on the exam**, which means that you will need to write out full answers to the questions prior to the exam. Answers will be graded on completeness, understanding and use of appropriate terminology. Please also note that **the final will be comprehensive and include questions from all the previous question sets**. For each exam I will choose 10 of the questions directly from the handout for that section of the course. Answers will be graded on completeness of the answer, clarity of thought and grammar.

GRADING	Points
Exams Exam I	100 pts
Exam II	100 pts
Exam III	100 pts
Final	150 pts
<b>Total Possible Points</b>	<b>450 pts</b>

Grading is strictly based on the percentage of points you earn out of the total possible. Grades will be assigned according to the following scale: >95%=A, 90-94%=A-, 85-89 %=B+, 80-84%=B, 75-79%=C+, 70-74%=C, 65-69%=D, <65%=failure

"Like the resource it seeks to protect, wildlife conservation must be dynamic, changing as conditions change, seeking always to become more effective." Rachel Carson, biologist, writer, environmentalist

**LECTURE SCHEDULE**

**REQUIRED READING**

**EVOLUTION AND NATURAL SELECTION**

Aug	25	Course introduction and History of Wildlife	1
	27	Variation and Natural Selection	2
Sept	1	Examples of Evolution by Natural Selection	2
	3	Macroevolution (Speciation)	2
	8	<i>NO CLASS –STATE MANDATED FURLOUGH DAY</i>	
	10	The Species Concept	3
	15	Species wrap-up	3
	17	The Secret Life Of Cats	-
	22	<b>EXAM 1</b>	

**ECOLOGY**

	24	CA Climate an Biomes	4
	29	Physiological Ecology	5
Oct	1	Populations	5
	6	Communities	6
	8	Ecosystems	6
	13	Ecology wrap-up	-
	15	<i>NO CLASS –STATE MANDATED FURLOUGH DAY</i>	

**EXAM 2**

**CONSERVATION BIOLOGY**

	22	Conservation and Biodiversity	
	27	Economic Value and Tragedy of Commons	8
	29	Political Tools for Conservation	9
Nov	3	The Recovery of the Aleutian Goose – Jay Bogiatto	-
	5	Cadillac Desert: The Mercy of Nature	
	10	The Role of Hunting in Conservation – Jay Bogiatto	-
	12	<b>EXAM 3</b>	
	17	Conservation in Practice	10
	19	Yellowstone Wolves – James Pushnik	-

Nov 23-27 Thanksgiving Break - No Classes

Dec	1	Restoration Ecology	12
	3	Invasive Species	11
	8	tba	
	10	What can you do?	13
Dec	15	FINAL EXAM 6-8pm	

"In the end, we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught." Baba Dioum, Senegalese Conservationist