

**Prof. Wes Chun**

Office: BIOS 262

Phone: 323-343-2064

Office Hours: T, 3:30–5 pm, or by appointment

Email: porcatus@gmail.com

### **Course Description**

The primary objective of Biol 165 is to examine the global effects of human activities on the biological environment, with emphasis on how the living world is affected by ecosystem alteration. We will also be examining the direct effects of the living world upon humans. This course is designed for non-majors in Biology and meets the CSULA general education requirement for an applied natural science. It can not be applied towards a Natural Science major or minor.

There will be a total of 300 points available in this course, broken down as follows:

- Seven one-page essays (up to 70 points)
- Seven classroom discussions (up to 70 points )
- Attendance (10 points for being awake)
- One 50-point Midterm Exam
- One 100-point Final Exam

Grading will be done on a straight scale:

- ≥ **270** pts = **A**
- ≥ **240** pts = **B**
- ≥ **210** pts = **C**
- ≥ **180** pts = **D**
- < **180** pts = **F**

Minor adjustments to this scale may be made at the end of the course, depending on the difficulty of the Midterm and Final Exams. Plus/minus grading will be used.

### **Instructor**

I am a biologist with a special interest in herpetology and tropical biology. I was a student at Cal State LA for a year before transferring to Cal State Long Beach, where I earned an MS degree (2001) in Biological Sciences. I was a PhD candidate and Teaching Fellow at UCLA from 2001-2007. My field work has taken me to the neotropical rainforests of Panamá and Ecuador—from the jungles of the Darién to the Chocó lowlands and the cloud forests of the Andes. I taught a CSULA course in Conservation Biology (Biol 470) last fall, and I have also taught Evolution at UCLA for the past two summers.

### **Textbook**

There is no textbook for this class. In lieu of this, lectures will be posted at the end of the week.

### Activities/Readings

I will lecture for about an hour at the start of each class meeting, unless there is an exam or field trip scheduled. You will then have a 10 min. break, followed on Tuesdays by a presentation (news item, video, etc.) during the last half hour of current events related to the class. On Thursdays we will have an active discussion on that week's reading, plus whatever else is relevant to the topic. Readings will be posted online during the previous weekend.

Written Assignments. You will write a weekly essay no more than one page in length, double-spaced, in 12 pt type, based on the reading for that week. Your essay will be due on Thursday at the end of class—no exceptions. No late work will be accepted. The seven essays will be worth up to 10 pts. apiece, for a total of **70 pts.**, and will be returned to you at the beginning of class on Tuesdays.

Discussions. Try to think of what you liked or did not like about the argument or idea presented in each paper, and what you did not understand. Be prepared to ask questions using your essay as a guide before turning it in at the end of the period. The class is small enough (about 40 students) that it is possible for us to have discussions where most of you can participate. The seven discussions will also be worth up to 10 pts. apiece, for a total of **70 pts.**

Attendance. Please come to class on time, as I like to start sooner than later. I will be taking attendance, particularly during discussion sessions. For those who attend class regularly, your enthusiasm will be worth **10 pts.**

### **Field Trips**

Two field trips are tentatively scheduled for the course. The first, during the fourth week of class, will be to the California Science Center in Exposition Park. The second, during the eighth week of class, will be to the Cabrillo Marine Aquarium. It is strongly recommended that you attend these field trips, as there will be a question or two on both the midterm and final exams related to these trips.

### **Exams**

Exams will be held in class on the dates indicated below and on the course schedule. There will be absolutely no make-up exams. If you have a medical emergency on the day of an exam, you must provide a doctor's note. No exceptions.

The Midterm. We will have a **50-point** Midterm on Tuesday, May 1<sup>st</sup>, during normal class time. The midterm will cover material from both lecture and readings, including field trips. There will be an emphasis on facts and processes, although you should expect a few entirely conceptual questions.

The Final. We will have an **100-point** Final on Tuesday, June 14<sup>th</sup>, from 1:30 – 3:15 p.m. The exam will not be cumulative and will only cover material since the Midterm. Note, however, that I may include one question from the Midterm that was missed by the majority of students. This will allow you a second chance to 'get it right.'

### **Disabled Students**

Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation.

### **Academic Honesty** (or lack thereof...)

Students are expected to abide by the University's Academic Honesty Policy, which can be found in the Spring 2012 Schedule of Classes. Students who violate this policy will be subject to disciplinary action and may receive a failing grade in the course. This is something I take very seriously.

### **Any questions?**

# SCHEDULE FOR BIOL 165: HUMANS AND THE BIOLOGICAL ENVIRONMENT

Lec T and R, 1:30–3:15 pm in Salazar Hall C141

Week	Date	Lecture Topics	Activities/Readings
<b>1</b>	<b>T Apr 3</b>	<b>The Biological Environment</b>	
		<ul style="list-style-type: none"> <li>What is the 'Biological Environment'?; Influence on Early Humans; Neolithic Period; Ancient Greeks; The Scientific Method; The Scientific Revolution; Ever Since Darwin</li> </ul>	Reading: Burney & Flannery, 2005
	<b>R Apr 5</b>	<b>Climates on a Rotating Earth</b>	
		<ul style="list-style-type: none"> <li>Temperature; Atmospheric Global Circulation; Coriolis Force; World Rainfall Patterns</li> </ul>	Discussion 1 of Burney & Flannery; <b>Essay 1</b> due
<b>2</b>	<b>T Apr 10</b>	<b>Geological Processes</b>	
		<ul style="list-style-type: none"> <li>Plate Tectonics; Volcanoes; Earthquakes</li> </ul>	Reading: Womack et al., 2010
	<b>R Apr 12</b>	<b>Biogeography</b>	
		<ul style="list-style-type: none"> <li>The Distribution of Life on Earth; Why Do Organisms Occur Where They Do?</li> </ul>	Discussion 2 of Womack et al.; <b>Essay 2</b> due
<b>3</b>	<b>T Apr 17</b>	<b>Biological Diversity</b>	
		<ul style="list-style-type: none"> <li>Species Diversity; Ecosystem Diversity; Direct Use Values; Indirect Use Value; Ethical Values</li> </ul>	Reading: Xu et al., 2009
	<b>R Apr 19</b>	<b>Climate and Biodiversity</b>	
		<ul style="list-style-type: none"> <li>Effects of Climate Alteration; Atmosphere and Rainwater pH; Effects of Air Pollution; Global Warming and the Greenhouse Effect</li> </ul>	Discussion 3 of Xu et al.; <b>Essay 3</b> due
<b>4</b>	<b>T Apr 24</b>	<b>FIELD TRIP 1: CALIFORNIA SCIENCE CENTER</b>	
		<ul style="list-style-type: none"> <li>Exposition Park, Los Angeles</li> </ul>	Take notes for Midterm
	<b>R Apr 26</b>	<b>Habitat Destruction and Fragmentation</b>	
		<ul style="list-style-type: none"> <li>Habitat Degredation and Pollution; Global Climate Change</li> </ul>	Midterm Exam study guide; review field trip
<b>5</b>	<b>T May 1</b>	<b>MIDTERM EXAM (50 pts.)</b>	
		1:30-3:15 pm in SH C141	Barnosky et al., 2011
	<b>R May 3</b>	<b>Extinction</b>	
		<ul style="list-style-type: none"> <li>How Final is Extinction?; The Current, Human-caused Mass Extinction</li> </ul>	Discussion 4 of Bamosky et al.; <b>Essay 4</b> due
<b>6</b>	<b>T May 8</b>	<b>Establishing New Populations</b>	
		<ul style="list-style-type: none"> <li>Successful Programs with Plants and Animals; Status of New Populations; Invasive Species</li> </ul>	Reading: Moody & Cleland, 2001
	<b>R May 10</b>	<b>Restoration Ecology</b>	
		<ul style="list-style-type: none"> <li>Ecological Restoration Techniques; Restoration of Major Communities</li> </ul>	Discussion 5 of Moody & Cleland; <b>Essay 5</b> due
<b>7</b>	<b>T May 15</b>	<b>Coral Reefs and Tropical Rainforests</b>	
		<ul style="list-style-type: none"> <li>Two of the Most Diverse Ecosystems; Bleaching</li> </ul>	Basset et al., 2004

of Coral Reefs; Destruction of Tropical Forests

**R May 17 Ocean Acidification**

- Causes of Ocean Acidification; Mechanism and Chemistry of Ocean Acidification; Effects on Marine Biodiversity; Oceans Most Sensitive to Acidification Discussion 6 of Basset et al.; **Essay 6** due

**8 T May 22 FIELD TRIP 2: CABRILLO MARINE AQUARIUM**

- Port of Los Angeles, San Pedro Take notes for Final

**R May 24 Human Population Growth**

- History of Human Population Growth; Factors Affecting Population Size; Population Age Structure; Slowing Population Growth Review field trip

**9 T May 29 Ethnobotany**

- Relationship Between Cultures and Uses of Plants; Medicinal Uses; Hallucinogens; Clothing, Dye, and Cosmetics; Ethnobotanical Research Schultes article

**R May 31 Parasitism and Macroparasites**

- Arthropods, Worms, etc.; Macroparasites and Their Diseases; How to Prevent Parasitic Infections Discussion 7 of Schultes; **Essay 7** due

**10 T Jun 7 Microparasites and Disease**

- Protists, Bacteria, and Fungi; Six of the Deadliest Microparasites; What Can We Do to Stop Them? Final Exam study guide

**R Jun 9 Dangerous to Humans**

- Marine Organisms; Venomous Snakes; Carnivorous Mammals; Noxious Plants; Biting and Stinging Arthropods; Top 10 Most Dangerous Animals in the World Final Exam review

**T Jun 14 FINAL EXAM (100 pts.)**

- 1:30–3:15 pm in SH C141