

**ENVS 10 Sec. 06 – Life on a Changing Planet**  
**Clark 227, TR 1:30-2:45**  
**Fall 2008**

**Instructor:** Stephanie A. Coppeto  
Office: Washington Square Hall (WSQ) 115  
Office Hours: Tuesdays 2:45-3:45 and by appointment  
Email: stephanie.coppeto@gmail.com  
Phone: 831-600-8627

**A. Course Objectives**

The purpose of this course is to give you the basic skills and knowledge necessary to critically examine biological and environmental issues. Living systems are in a constant state of change, both as a result of natural processes and human activities. The course materials emphasize the understanding and use of the scientific method and the analysis of conflicting data and viewpoints. Students will use life science information to analyze environmental issues and debates by considering scientific consensus and the weight of scientific evidence.

This course is, at its heart, a biology course. What makes it different is its emphasis on environmental issues. These two subject areas are closely linked, though rarely taught together. By presenting this information together, it is my hope that at the end of the course you will have gained both the basic understanding of living systems, and the environmental issues that such systems currently face. It is also my hope that those of you who will go on in the field of Environmental Studies will have gained the basic scientific tools to support your arguments.

**B. Required Text**

Campbell, N. A., Reece, J. B., & Simon, E. J. (2007). *Essential biology: Third Edition*. San Francisco, CA: Pearson Education, Inc.

Additional Readings: Additional Readings will include case studies that present topics we cover in class under real-life conditions. Case study readings are available on the course website. If you have troubles accessing the website, please see me in advance of the due date for the reading.

**C. General Education Student Learning Objectives**

This is a Category B2 General Education course and, as such, students will develop and demonstrate the following objectives:

- 1) gain a basic understanding of the structures and processes of living systems;
- 2) learn about the scientific method and how the body of scientific knowledge advances;
- 3) gain experience with the testable frameworks and the qualitative and quantitative methods scientists use to collect data;
- 4) develop tools to critically analyze controversial scientific issues from a life scientist's perspective;
- 5) acquire an understanding of the interrelationships between science, economics, ethics, and policy in environmental decision-making by society;
- 6) develop an understanding of how and to what extent human activities are affecting the earth's living systems

**D. Student Learning Objectives**

- 1) Students should be able to use the methods of science and knowledge derived from current scientific inquiry in life or physical science to question existing explanations
- 2) Students should be able to demonstrate ways in which science influences and is influenced by complex societies, including political and ethical issues.
- 3) Students should be able to use the methods of science, in which quantitative, analytical reasoning techniques are used, as well as be able to express themselves in proper academic written English.

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**E. My Objectives**

I intend to help guide you on your journey to understanding the essentials of environmental studies. In so doing, I encourage you to ask questions about lecture materials, assignments, and exams. I welcome you to visit my office hours to discuss class topics, your own interests, or simply to introduce yourself.

**F. Course Requirements**

**Examinations:** Three exams will be given to test your understanding of the material presented in the lectures, readings, and assignments. Each exam will include the material covered since the previous exam. You must use blue or black ink (no pencil, no other color ink) on all exams. You must be **present and on time** for all exams. There will be **no late exams**. Early exams can be arranged **if a legitimate/documented circumstance warrants an early exam** (e.g., doctor's note). Early exams can be scheduled on Tuesdays or Thursdays and **only prior to the original exam date**.

**Case Studies:** The course will consist of five case studies developed by University instructors throughout the US that emphasize concepts we will discuss in lectures. Your grade will depend on the level of preparation (reading the assignment in advance), ability to work in groups, thoughtfulness of answers, and class participation. There are no written answers associated with in-class assignments but **background readings are required and everyone is expected to contribute to group and class discussion**. Just because I don't grade your answers to the case study questions, doesn't mean you should not spend time working on them - **your exams will include questions from the case study** readings, questions, and our discussions in class. **All readings for the case studies must be read in advance of class**.

**Environmental Issue Analysis Paper:**

**Overview:** This paper is designed to introduce you to current environmental topics and the peer-reviewed literature and show your critical thinking skills. In this assignment, students will objectively analyze an environmental topic of your choice using known scientific (and peer reviewed) facts relevant to the issue. The paper must be based on independent and original library research you have conducted. **Please see "ENVS10PaperSpecifics.pdf" for detailed information on the paper assignment!**

**Topics:** Choose one environmental topic to research in the library. Make the topic specific so you will be able to find the right articles and cover your analysis in three double-spaced pages. There are many possible topics to choose from so get creative – is there an environmental question that has been bugging you? - use this opportunity to research it! Carefully analyze the topic using known scientific facts you have gained and ask yourself the following questions: Why is your topic important? What are the main issues? How does the research you have found shed light on the topic (use specific examples with citations)? Question the explanations – do they address the problem, do their results seem plausible? What are some future directions for research in this area? How does society (morals, politics, policy, etc.) influence science in this area? How does science in this area influence society?

**Literature Sources:** You are required to use at least two peer-reviewed articles but may also use book chapters (including your textbook if appropriate), "gray literature" (government reports and environmental impact statements and reports), and **one** internet source (Wikipedia **can not** be used as a source). You must use your own words when summarizing the information in the articles (or else you are plagiarizing). You must cite the literature you use in the body of the paper and in a "References" section at the end of the paper. You may incorporate figures and tables if they are properly identified (cite the source and include a title with a figure/table). The References section and figures and tables are not included in the page limit.

**The assignment is divided into three parts. All parts should be formatted in 12 point Times New Roman font, double-spaced with 1-inch margins. Any papers exceeding the assigned page limit will be penalized 5% of the total possible grade.**

1. **Paper Outline (due Oct. 7):** In one page, identify the specific environmental issue, summarize the main topics you will cover and the main themes of the paper. Include a references section listing the relevant articles you are using.

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2. Draft Paper (due Nov. 6): A three-page draft of your paper should be as complete as possible. Remember, more work done now means fewer revisions for the final paper. The draft should include comments made on the topic outline if you feel these will improve the paper. References and tables/figures are expected in the draft.
3. Final Paper (due Dec. 2): A three-page final paper that is checked and double-checked for errors. The final paper should incorporate the suggested revisions from the draft paper if you feel these improve your paper. Submit the reviewed topic outline and draft paper with your final paper.

Late Assignment Policy: The paper outline, draft, and final are due **during class on the deadline date**. If one of these assignments is late (i.e. **not turned in at class**), please turn it in to my box in the Environmental Studies office. The assignment must be signed and dated by ENVS staff. **Ten percent (10%)** of your total possible grade will automatically be deducted for late assignments.

Class Participation: This class will combine lectures with a number of participation-based case studies in which students will work in groups, as a class, or role-play to tackle environmental issues. Students are expected to attend and participate fully and actively in each class, complete the assigned readings before class, ask questions, pick up/print out class readings, and participate in class discussion. **Participation is 10% of your grade.**

**F. Grading**

Grading for this class is broken down by:

1. Quality and completeness of examination answers
2. Quality, completeness, and timely submittal of paper assignments
3. Quality and depth of class participation – I'll know if you haven't done the readings!

**A. Grading Overview**

Assignment	% of Total Possible Grade
Exam 1	20%
Exam 2	20%
Final Exam	20%
Paper Outline	5%
Paper Draft	10%
Final Paper	15%
Class Participation	10%
<b>Total</b>	<b>100%</b>

**B. Grading Percentage Breakdown**

94% and above	A
93-90%	A-
89-87%	B+
86-84%	B
83-80%	B-
79-77%	C+
76-74%	C
73-70%	C-
69-67%	D+
66-64%	D
63-60%	D-
<b>Below 60%</b>	<b>F</b>

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**G. Course Calendar including assignment due dates, exam dates, and readings:** Please note that the course calendar is subject to change based on the progress of the class. Please contact me if you've missed class and need course calendar updates

<b>Date</b>	<b>Topic</b>	<b>Reading (Chps)</b>	<b>Additional Reading</b>	<b>Due in Class</b>
26-Aug	Administrative needs			
28-Aug	Biology and Life: An Overview	Intro		
2-Sept	The Scientific Method	Intro		
4-Sept	<i>The Case of the Ivory-billed Woodpecker</i>		<i>The Case of the Ivory-billed Woodpecker</i>	
9-Sept	Chemistry 1: Basic and Organic Chemistry	2, 3		
11-Sept	Chemistry 2: Cell Evolution and Structure	4, 15		
16-Sept	Climate Change Film – the 11 <sup>th</sup> hour			
18-Sept	Climate Change Film – the 11 <sup>th</sup> hour			
23-Sept	<b>Library Information Session Paper Assignment</b>			
25-Sept	Cellular Respiration and Photosynthesis	6,7		
30-Sept	<b>Exam 1</b>			
2-Oct	Genetics 1	8,9		
7-Oct	Genetics 2	10,12	<i>Frankenfoods? The Debate Over Genetically Modified Crops</i>	<b>Paper Outline Due</b>
9-Oct	<i>Frankenfoods? The Debate Over Genetically Modified Crops</i>	12	<i>Frankenfoods? The Debate Over Genetically Modified Crops</i>	
14-Oct	Evolution of Populations	13		
16-Oct	Evolution of Populations	13		
21-Oct	Evolution of Biodiversity	14		
23-Oct	Biodiversity and the Extinction Crisis	14, 20		
28-Oct	<i>Threats to biodiversity: a case study of Hawaiian birds</i>		<i>Threats to biodiversity: a case study of Hawaiian birds</i>	
30-Oct	Ecology and Environmental Services of Bats			
4-Nov	<b>Exam 2</b>			
6-Nov	Evolution of Plants and Animals: Overview	16,17		<b>Draft Paper due</b>
11-Nov	<b>Veterans Day – no class</b>			
13-Nov	Ecology 1: Organisms and Populations	18		
18-Nov	Ecology 2: Communities and Ecosystems	19		
20-Nov	Ecological Succession, Disturbance, and Restoration	19	<i>On a Wing and a Prayer: A wetland mitigation dilemma</i>	
25-Nov	<i>On a Wing and a Prayer: A wetland mitigation dilemma</i>		<i>On a Wing and a Prayer: A wetland mitigation dilemma</i>	
27-Nov	<b>Thanksgiving – no class</b>			
2-Dec	<i>The Klamath Basin Water Crisis: Water Supply and Demand</i>		<i>The Klamath Basin Water Crisis: Water Supply and Demand</i>	<b>Final Paper Due</b>
4-Dec	Human Impact on the Environment and Conservation	20		
9-Dec	Sustainability and Renewable Energy	20		
15-Dec	<b>Exam 3 (12:15 – 2:30)</b>			

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**H. University, College, or Department Policy Information**

**Academic Integrity Statement (from Office of Judicial Affairs)**

Your own commitment to learning, as evidenced by your enrollment at San José State University and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at <http://www2.sjsu.edu/senate/S04-12.pdf>.

**Plagiarism**

Plagiarism is the use of someone else's language, images, data, or ideas without proper attribution. It is a very serious offense in both academic and professional environments. In essence, plagiarism is both theft and lying: you have stolen someone else's ideas, and then lied by implying that they are your own.

Plagiarism will lead to grade penalties. It might also result in you failing the course and/or having the incident permanently noted in your SJSU student records. If you are unsure what constitutes plagiarism, it is your responsibility to educate yourself, or ask for clarification, before you hand in written work.

Learning when to cite a source, and when not to, is an art, not a science. However, here are some examples of plagiarism that you should be careful to avoid:

- a. If you use a sentence (or even a part of a sentence) that someone else wrote and do not reference the source, you have committed plagiarism.
- b. If you paraphrase somebody else's theory or idea and do not reference the source, you have committed plagiarism.
- c. If you use a picture or table from a web page or book and do not reference the source, you have committed plagiarism.
- d. If your paper incorporates data someone else has collected and you do not reference the source, you have committed plagiarism. The SJSU library has a tutorial that explains how to identify and avoid plagiarism, available at: <http://tutorials.sjlibrary.org/plagiarism/index.htm>.

**Policy on Compliance with the Americans with Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability. For information on how to document disabilities, refer to the following website: [http://www.drc.sjsu.edu/student\\_services/document\\_disability.htm](http://www.drc.sjsu.edu/student_services/document_disability.htm)