

San Jose State University

Environmental Studies Department

1. Course Information

Instructor: Shannon Bane

Course Title: Life on a Changing Planet

Course Code: ENVS 010

Section: 01

Class Hours & Location: Monday & Wednesday, 10:30 AM – 11:45 AM, Clark 310

Office: WSQ 115E

Phone: 831-566-7368

Office Hours: 8-9am Monday and by appointment

E-mail: shannon.bane@sjsu.edu

2. Course Description

a. Course Overview

The purpose of this course is to give you the 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 of basic biological concepts and use of the scientific method to evaluate and analyze data and viewpoints that are often conflicting or incomplete, as they can often be in real life.

Students will use life science information and concepts to analyze current environmental issues, research, and policy using a series of relevant case studies developed by university instructors throughout the United States. In class lectures, films, discussions, and role-playing assignments we will investigate, critique, and compare scientific findings with public policy and perceptions.

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 when you encounter biological issues in the future you will not fail to see the ecological ramifications.

Course topics include:

- Human impact on ecosystems
- Global climate change
- Cellular biology
- Evolutionary biology
- Speciation and extinction
- Community and population biology
- Biodiversity and conservation biology
- Environmental resource management
- Habitat restoration and mitigation
- Sustainable agriculture and organic labeling

b. Required Texts

Campbell, N. A., Reece, J. B., & Simon, E. J. (2004). *Essential biology*. San Francisco, CA: Pearson Education, Inc.

c. General Education Content Objectives and Student Learning Objectives

Content Objectives: This class 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.

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 moral issues.
- 3) Students should be able to use the methods of science, in which quantitative, analytical reasoning techniques are used.

d. Office Visits

Please do not wait for an insurmountable problem before considering an office visit. If you would like to discuss an issue or an assignment see me after class or schedule an office visit by contacting me at shannon.bane@sjsu.edu or 831.566.7638.

3. Course Requirements

The exams and assignments are designed to help you learn the course material and acquire the skills to analyze issues. The written assignments are designed as a mechanism for you to develop skills for evaluating, analyzing, and expressing solutions to environmental issues.

a. Class Participation

This class combines a traditional lecture format with a number of participation-based Case Studies in which students will work in groups or as a class to discuss environmental issues. Students are expected to attend and participate **fully and actively** in each class (arriving on time), complete the assigned readings **before** class, ask questions, turn assignments in on time, pick up class handouts, and **participate in class discussions. YOUR GRADE DEPENDS ON IT. If you are not present you cannot receive participation points for that day's assignment.**

b. Exams

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. The exams will constitute a major portion of your grade. Please do not miss an exam. Make-up exams will be considered only for **legitimate/documented circumstances and must be arranged IN ADVANCE. NO MAKE-UP EXAMS WILL BE GIVEN AFTER THE ORIGINAL TEST HAS BEEN ADMINISTERED. EVER. DON'T EVEN ASK.**

c. Assignments

Nine assignments will be tackled this semester. Each is different, and has different requirements. Most require reading in advance, and many require research done outside of class time in the library or on the internet. Your assignments will be graded on your participation in class; ability to follow instructions; ability to work with other students; the thoughtfulness, completeness, originality, and complexity of your answers; and on spelling, punctuation, sentence structure and clarity of the written portions of your work. **Again, if you are not present for the in-class portion of the assignment, you can not receive participation points for that day's assignment.**

4. Grading

a. Assignment of Points

Points Received

3 Exams (150 points each)	450	
9 Assignments (50 or 100 points each)	550	
Total	1000 points	

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-
below 60%	F

c. Late Assignment Policy

All assignments are due on the deadline date. Late assignments will be assessed a 10% penalty for *each* late day. For example, a paper turned in after class on the due date will be assessed a 10% penalty (10% of the highest possible score). Papers will be accepted for only one week after the due date. Papers later than that will not be accepted.

5. Reading Assignments/Course Schedule

A list of topics covered, exam and written assignment due dates, and text reading assignments are provided in the Syllabus below. The Syllabus is subject to change and any revisions to the Syllabus will be handed out in class.

Syllabus

Date	Topics	Readings – <i>Essential Biology</i>	Assignments
M 8/23	Intro to Class; Lecture 1: Biology & Life	Ch. 1	
W 8/29	Lecture 2: Scientific Method	Ch. 1	
M 9/3	Labor Day – No Class		
W 9/5	Assignment 1: The Case of the Ivory-Billed Woodpecker		
M 9/10	Lecture 3: Chemistry & the Origin of Life	Ch. 2 & 3	Assignment 1 Due
W 9/12	Lecture 4: Photosynthesis & Cellular Respiration	Ch. 6 & 7	
M 9/17	Movie: An Inconvenient Truth		
W 9/19	Movie: An Inconvenient Truth		
M 9/24	Assignment 2: Calculating Your Carbon Footprint		
W 9/26	Library Field Trip		Assignment 2 Due
M 10/1	Lecture 5: The Cell	Ch. 4	
W 10/3	Assignment 3: Little Mito: The Story of Where He Came From		
M 10/8	MIDTERM 1		Assignment 3 Due
W 10/10	Lecture 6: Evolution & Natural Selection	Ch. 13	
M 10/15	Assignment 4: I'm Looking Over a White-Striped Clover		
W 10/17	Lecture 7: Speciation & Biodiversity	Ch 14, p. 452-461	Assignment 4 Due
M 10/22	Lecture 8: Extinction	Ch. 14, Assignment 5 Background Reading	
W 10/24	Assignment 5: Threats to Biodiversity: A Case Study of Hawaiian Birds		
M 10/29	Assignment 5: Threats to Biodiversity: A Case Study of Hawaiian Birds		
W 10/31	Lecture 9: Ecology & Ecosystem Organization	Ch. 18 & 19	
M 11/5	Lecture 10: Population & Community Interactions	Ch. 19, Assignment 6 Background Reading	Assignment 5 Due
W 11/7	Assignment 6: Search for the Missing Sea Otters		
M 11/12	Veteran's Day – No Class		
W 11/14	Assignment 6: Search for the Missing Sea Otters		
M 11/19	MIDTERM 2		Assignment 6 Due
W 11/21	Lecture 11: Ecological Succession, Disturbance, and Restoration	Ch. 19, p. 443-444	
M 11/26	Movie/Assignment 7: Cane Toads: An Unnatural History	Assignment 8 Background Reading	
W 11/28	Assignment 8: On a Wing and a Prayer		Assignment 7 Due
M 12/3	Lecture 12: Sustainable Agriculture		
W 12/5	Lecture 13: Organic and GMO's; Assignment 9: The Case of the "Tainted" Taco Shells		Assignment 8 Due
M 12/10	Assignment 9: The Case of the "Tainted" Taco Shells		
M 12/17	FINAL EXAM – 7:15am – 9:30am	9am class	Assignment 9 Due
F 12/14	FINAL EXAM – 9:45am – 12noon	10:30 class	Assignment 9 Due

6. University, College, or Department Policy Information

a. 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>.

b. 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

c. Cell Phones

Please turn off cell phones before class. If your phone rings during class **do not** answer it, quietly turn it off.