

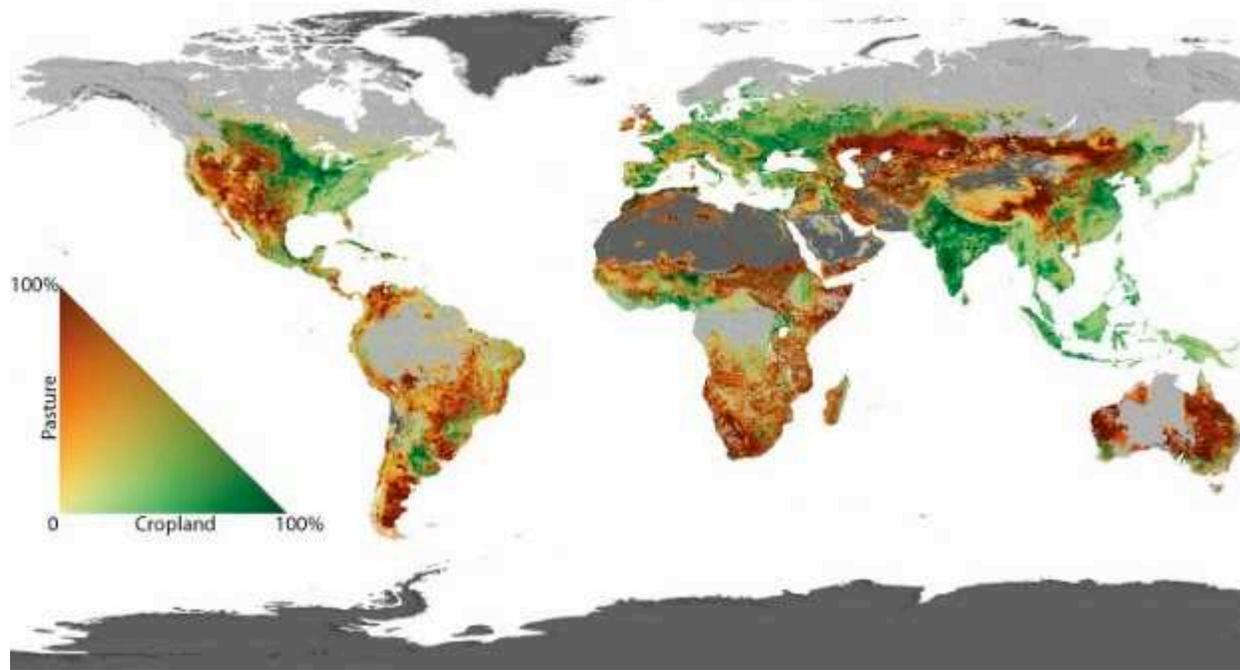
Course Code & No. - Section: ENVS 200 - Section 1
Course Title (Credits): Environmental Systems (3)
Term & Year: Fall / 2017
Course Ref. No. (CRN): 80276

Instructor: Dr. Megan Peterson
Phone(s):
Email: mpeterson@sierranevada.edu
Office: 2nd floor TCES – 201
Office Hours: Wed 9:30-11:30 or by appointment

Class Meeting Time: MW 11:30 – 12:45 p.m.
Location: TCES, room 206

Prerequisites (from Catalog): ENGL 102 and CORE 101 and Math
Corequisites (from Catalog): ENVS 205 (lab)

Agricultural Lands of the World



Course Description

This course introduces students to natural systems on earth, and how humans are molded by them and affect them. It concerns the connection of economic, ethical, and physical environments, and guides students through the study of environmental and economic sustainability, and how they affect human equity treatment. It also reinforces students' numeracy skills on probability, graphic, calculation, and statistics, in an environmental context that includes application of Tahoe Basin. The course also emphasizes the critical thinking process.

Core Outcomes

Quantitative literacy, Visual Quantitative Literacy, Critical Thinking, Problem Solving, Oral Communication, Environmental Sustainability & Scientific Literacy, Social Sustainability & Global and Civic Engagement, Economic Sustainability.

(Map credit: <http://vancouver.sun.com/news/staff-blogs/scientists-reveal-plan-to-double-the-worlds-food-supply>)

Student Outcomes

1. Describe the key characteristics of the ecosystems and many species of the Tahoe Basin (**Environmental Sustainability**)
2. Explain and apply knowledge of how the world's climate and ecological systems work (**Science Literacy, Environmental Sustainability**)
3. Create correctly formatted graphs of actual data, both on paper and using Excel; interpret a wide variety of graphs, charts, and infographics (**Visual Literacy**)
4. Apply the concepts of sustainability to human- ecosystem interactions, considering economics and culture (**Environmental, Social, Economic Sustainability**)
5. Conduct scientific research, include hypothesis formation, experimental design, and statistical tests (**Quantitative Literacy**)
6. Create solutions to problems by applying diverse subject areas and appropriate calculations (**Problem Solving, Critical thinking**)
7. Evaluate the need, quality, credibility, and implications of information of a variety of sources (**Critical thinking**)

Methods of Assessing Student Outcomes

Student outcomes will be assessed using some of the following:

1. Quizzes, assignments of increasing levels of challenge;
2. Writing assignment(s), submitted in stages, both based on library and lab work;
3. Written in-class, closed-book (with review sheet) examinations;
4. Projects done in the field and classroom.

Required Texts and Materials

1. *Environmental Science*; Tenth Ed., Daniel Chiras; Jones & Bartlett; © 2016; ISBN: 9781284057058
2. Laptop computer: Browser, Word & Excel & PowerPoint, or Open Office (www.openoffice.org)

Attendance

Attendance will be taken for scholarship purposes and it is recommended that you attend each class. Students are required to be in class promptly and ready to learn and participate at the scheduled meeting time. No late work (within 5 minutes of start of class).

Prim Library Resources

Using the library's resources effectively (not just Internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

Prim Library Resources for ENV5 200 and ENV5 205: Environmental Systems include, but are not limited to:

1. Electronic databases (for peer-reviewed research articles, reviews, newspaper and magazine articles): Electronic databases most likely to include articles related to your term paper topics are EBSCO: Academic Search Premier, Environment Complete, General Science Collection, GreenFILE, Health Source, Newspaper Source, and TOPICsearch; BioOne; and GREENR.
2. Hardcopy periodicals: Prim Library has current subscriptions for Science, New Scientist, Science News, and National Geographic Magazine. Any of these are likely to have articles on your term paper topic. Full-text articles from many more periodicals are available through the electronic databases.
3. Lib Guides: <http://Libguides.sierranevada.edu> These web pages contain instructions about how to use resources available at Prim Library, how to evaluate the appropriateness of information from the Internet for a research paper, how to cite sources, and other topics related to finding and using information.

Sanctions for Cheating and/or Plagiarism

The Honor Code

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand. If writing is turned in by you, without citation or shared credit, it means you wrote it. Any shared work should be credited, paragraph by paragraph.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

ADA Accommodations

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu or go to the OASIS offices on the third floor of Prim Library within the first week of the semester.

The SNC Email System

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes:

Liberal Arts	Professional Preparedness
Entrepreneurial	Thinking Sustainability

Class Requirements

Assignments are due at the beginning of class. Students are required to bring a hard copy of assignments to class, emailed copies for me are acceptable. Quizzes accepted on time only. A letter grade will be deducted for each day projects are late. Students are required to bring laptops to class, however laptops and phone are to remain off unless otherwise noted. Please dress appropriately and be prepared to spend some time outside. Students may be asked to offer cars for car-pooling; gas expenses will be compensated.

Quizzes

Students are required to take at least 10 online quizzes throughout the course. A total of 13 quizzes will be posted giving the student opportunity to miss as many as 3 quizzes. Students can take more than 10 quizzes, at which point the best 10 scores will go towards your grade. Quizzes will be posted to the course Moodle site each Monday by 11:00 am and will remain available until the following Friday at 5:00 pm. Once a quiz is closed it will remain closed. It is the student's responsibility to gain access to Moodle. They cover material already discussed or reading assigned in advance. Sncmoodle.sierranevada.edu (note the new Moodle web address).

Projects

Four major projects will be completed during the semester. Each project will correspond to sections of the lecture and labs. Assignments will be introduced at the start of each new course section and are due at the end of each section (see Class schedule).

Project Ideas, to be developed during the semester:

#1 Climate Diagram:

Use publicly available data to make a climate diagram showing precip and temp across a year.

#2 Stream Flow Diagram:

Building on stream flow lab, students use data sets for watersheds around the lake, make hypothesis about watershed stats (avg yearly flow or something) and then look at variables that influence, then make new hypothesis, etc.

#3 Biome Best Practices:

Students choose a biome/habitat and research current state, ecological role, ecosystem service role, etc., as well as the "best" way to manage this area for all outcomes.

#4 Population Studies: What controls human population growth? Is population limitation possible? Desirable? Dangerous? A source of human misery or of high quality of life?

#5 Energy Debate:

Students are assigned energy sources to research. In class presentation of the pros of topic, followed by question and answer/debate sessions.

#6: Sustainability Presentations:

Students choose solutions or problems to investigate and present their findings in class with a 10 min ppt. Quantitative investigation required. Myth busting?

Make hypotheses, information evaluation, new information, alternate hypothesis, evaluation as applied to a Sustainability. Solution (vegetarian diet, hybrid car, etc.)

Tests

A total of 4 tests. Three tests during the semester and one during the finals period. The final exam will be cumulative. All scores will be included in final grade. **No test make-up.**

Grading Policy

Assignment	Points	Number		When Due
Quizzes	10	10 of 13	100	5 pm Fridays (online)
Test	100	4	500	As scheduled
Projects	125	4	500	As scheduled
Activities	10	10 of 12	100	As Scheduled *participation/attendance necessary for in-class activity credit
		TOTAL	1200	

Semester Schedule

WK	DAY	DATE	TOPICS	CHAP.	THEMES	Projects	Activity	Quizzes	
1	M	8/21	Intros, Systems Theory						
	W	8/23	Ecology/Physical 1	1+2	How the planet works: Crash course in Ecology		1		
2	M	8/28	Ecology/Physical 2	2+3				1	
	W	8/30	Ecology/Chemical	4+5				2	
3	M	9/4	Labor Day						2
	W	9/6	Ecology/Chemical	6			1	3	
4	M	9/11	Ecology/Biological	6					3
	W	9/13	EXAM # 1						
5	M	9/18	Pop. Growth	8	The 'Biggest Problems'			4	
	W	9/20	Pop. Growth Math	8			4		
6	M	9/25	Energy 1- Basics, flows	14					5
	W	9/27	Energy 2- Sources	14				5	
7	M	10/2	Energy 3- Consequences	14					6
	W	10/4	DEBATE				2	6	
8	M	10/9	DEBATE CONT'D					7	
	W	10/11	EXAM #2						
9	M	10/16	Soils/Grasslands	10-12	Resources and their mis-management: Pollution			8	
	W	10/18	Forests	12			7		
10	M	10/23	Water	13					9
	W	10/25	Air Pollution 1	19				8	
11	M	10/30	Air Pollution 2	20			3		10
	W	11/1	Water Pollution	21				9	
12	M	11/6	Waste	23				11	
	W	11/8	EXAM #3						
13	M	11/13	Population growth	9	Now What: Sustainability			12	
	W	11/15	Renewable Energy	15			10		
14	M	11/20	THANKSGIVING BREAK						
	W	11/27	Renewable Energy	15			4	11	13
	M	11/29	Other Sustainabilities					12	
15	W	12/4	Sustainability Pres						
	M	12/6	Sustainability Pres						
	F	12/8???	EXAM #4						