

NR 120, Fall 2015

Environmental Conservation

Schedule:

8-9:15 am, Tuesdays and Thursdays, Clark A201

Professors and Teaching Assistant:

Please come see us! Below, we list our office hours, which is a great way to reach us. Email is fine, but remember ALL EMAILS should contain “NR120” in the Subject Line, please!

Professor	Office and Email	Office hours
Dr. Richard L. Knight 491-6714	210 Forestry Building richard.knight@colostate.edu	T – 9:30-10:30; Th – 9:30-10:30 Or by appointment

Teaching Assistant	Office and Email	Office hours
Ashton Lamb	237C Forestry Building aclamb@gmail.com	T – 10-12; Th – 2:30-3:00 Or by appointment

Course description:

This course will provide an overview of the most important environmental issues of our time. Students will become informed and critical thinkers regarding environmental change, human society, and the sustainability of natural resources from local to global scales. We will develop an analytical framework for understanding each of a number of major current issues, and conclude by evaluating the potential actions that individuals and societies can take for environmental sustainability.

This course is framed around a puzzle of great contemporary significance. The daily news and the scientific literature suggest that humanity faces a number of grave threats that undermine ecosystem and human wellbeing (e.g., biodiversity loss, fisheries collapse, climate change, soil degradation; unemployment, endemic poverty and malnutrition juxtaposed with diseases linked to obesity). Despite some successes, in too many cases, policies and investments to address such problems are either inadequate or ineffective. Why have modern societies and international institutions so far, with a couple of notable exceptions, failed to effectively tackle global social and environmental challenges?

We will see that not only are there debates over the nature and extent of global issues, but there are different schools of thought as to how humanity’s prognosis can be improved. Here is a

sampling that we will explore:

- a) *Focus on enabling markets and private enterprise* – respect private property, promote free markets and reduce taxes to better motivate individuals to work hard and take risks. Such policies, often labelled neoliberalism, are argued to foster economic growth, to provide employment opportunities and to generate wealth that societies can direct towards various priorities, such as the environment.
- b) *Focus on stronger laws and institutions* – strengthen international treaties and institutions to ensure that economic activity takes place in a way that protects the environment and ensures that human rights are respected.
- c) *Focus on ecological constraints* – humanity needs to learn to live within ecological limits (e.g., to set aside areas from human use, to limit our emissions into the natural environment). Humanity must shift to a post growth economy and devise ways to satisfy human needs that do not depend on ever expanding economic output.
- d) *Focus on strengthening local economies* – abandon the current emphasis on industrialization, globalization and economic growth and instead promote degrowth in rich countries, favor local economies that are geared towards meeting local needs and promote the rights of indigenous people and other vulnerable populations.
- e) *Focus on correcting economic signals* – ensure that prices in the economy reflect social and environmental costs by using economic instruments like carbon taxes and emission permits; put in place new indicators of success focused on ecosystem and human wellbeing.
- f) *Focus on voluntary initiatives* – promote mechanisms that give firms and consumers the information they need to take into account the social and environmental impact of their decisions (e.g., fair trade and sustainable fisheries certification schemes).
- g) *Focus on improving technology* – humanity needs to develop and roll out better technologies (e.g., solar photovoltaics, GMO crops) that will reduce the need for natural resources and result in decreased emissions of wastes, such that ever rising levels of prosperity can be maintained without increasing the level of impact on the environment.
- h) *Focus on an equitable distribution of income and wealth* – one of the messages coming from the Occupy Wall Street movement is that humanity needs to ensure income and wealth are distributed more equitably and that the societal surplus is focused on urgent social and environmental problems. Wealthy individuals should be taxed at higher rates to pay for government programs and a social safety net; rich societies in particular should supply most of the funds that are needed to attend to global problems.
- i) *Focus on shifting values* – promote society-wide value change such that individuals and communities embrace voluntary simplicity, compassion for each other and nature, with the end result of human and ecosystem wellbeing.
- j) *No change is needed* – every era has had its problems, ours is no different and we will muddle through. Besides, an asteroid might hit the planet and cause humans to go extinct, so we might as well party while we can.

Class Objectives:

- To introduce students to ecological concepts that provide a foundation for understanding present and future environmental issues;
- To provide an opportunity for students to learn about environmental issues that are critical today, including population growth, natural resource management, biodiversity, global change, wilderness, food production, waste management, and others.
- To help students learn to think critically about information they receive regarding environmental issues.
- To provide an opportunity for students to develop important skills soon after their arrival at CSU including attending class, keeping up with class assignments, and developing testing skills.

Student Performance Objectives:

- Students should be able to explain the science and values that underlie the most important environmental issues of today.
- Students should be able to explain what is conservation and its components.
- Students should be able to explain a variety of land uses, from ranching to energy development, and understand how they can be done in a sustainable fashion.
- Students should be able to critically evaluate media articles regarding environmental issues. Such analyses should distinguish among the facts, theories, and opinions or biases presented in the media.

Required Resources:

- An “I-Clicker” from the bookstore, listed under our class name. You will need to have this every day in class. **Beginning week 3**, there will be no excuses for not having your clicker for class quizzes.

Class website

The class webpage is listed under the RamCT CANVAS site. Log in with your electronic identity (EID) and password. The web page will contain lecture notes (print before coming to class) and readings and quiz questions, your grades, and other important linkages. *It is required that you use the web page for this course...log in regularly!*

Testing and Grading

This class is designed to maintain the same focus and attention each week. With consistent attention to the class, you will find that you can reinforce your learning regularly, without cramming, and rather, build on prior knowledge and skills to enhance both your learning and your grade.

Your grade will consist of:

In-class quizzes, 15%.

Web-page readings and quizzes, 30%.

Mid-term exam, 25%.

Final exam: 30%.

Course Grade Criteria

A = 90 - 100%

B = 80 - 89%

C = 70 - 79%

D = 60 - 69%

F = < 60%

*NOTE: There will be **NO make-up** exercises, but see the Extra Credit opportunities.*

Weekly in-class quizzes:

Class will begin at 8 am with quizzes (2-4 questions) that cover material on the **previous lecture**. The purpose of the weekly quiz is to assess whether you are attending class and understanding the covered material. If you are attending class and reviewing your class notes, you should do fine on these quizzes.

In-class quizzes will be administered using the I-clickers. Bring and use your own clicker. These clickers will instantly register your answers. Beginning Tuesday of week 3 (8 September) there will be no excuses accepted for not having your clicker.

Out-of-class readings and exercises:

There will be readings and exercises on the course web page that relate to the lecture material followed by questions you will answer. ***The deadline for each reading will be 5pm the Friday of that week—no exceptions.*** Check the web page every week to ensure you don't miss this activity!

Reflection Essay:

There will be no class on Tuesday the 17th of November. You will instead reflect on the content of the course and write an out-of-class essay that will be delivered to me in class on the Tuesday following Thanksgiving (December 1). This essay will be worth two clicker quizzes.

Extra Credit Opportunities (these are the choices)

Note: All written descriptions of extra credit assignments have to be submitted to Ashton Lamb within 7 days of the activity. No exceptions.

1. Fort Collins hosts the **Sustainable Living Fair** each year, a remarkable weekend of fun, education, and opportunities. The dates are **12th and 13th of September**. They eagerly seek volunteers! Go to www.sustainablelivingassociation.org and then to the Sustainable Living Fair and "Volunteer" to sign up. If you volunteer and prepare a one-page description of what you did, you will **be given 8 points for missed clicker quizzes/questions**. Turn in your one-page description to Ashton Lamb.

2. **Wildlands Restoration Volunteers** – on **October 3**, we will work to restore degraded wetlands on the historic and conserved 17,000 acre Roberts Ranch north of town. **Eight points will go to missed clicker quizzes/questions**.

Classroom Etiquette:

- Please do ask questions! This keeps the class more interesting and easy to understand.
- **Go to the bathroom before class begins, arrive before class begins, and do not leave class before it ends!**
- Do not read newspapers, use your laptop for anything other than notes, visit your cell phones, or text messages.

- **In a nutshell, inappropriate classroom behavior is any behavior that distracts from the learning opportunities of other students. Respect them, they are your classmates!**

Academic Integrity:

We expect you to be scholars and have integrity in your work. While we hope that you will talk together about concepts and ideas, all quizzes, exams, and out-of-class readings and assignments must be your own work. All writing must be in your own words. ***I will levy the highest possible consequences for lack of integrity.*** Please see http://www.ois.colostate.edu/academic_guide.html for CSU's policy on academic integrity.

Lecture Topics

Date	Topic
Aug. 25	Course Overview
27	Land and people: ethical relationships
Sept. 1	Land and people: ethical relationships
3	Population growth
8	Population growth
10	Wildlands Restoration Volunteers – Nate Boschmann (extra credit work day-Oct. 3)
15	Consumption
17	Ecosystem services
22	Ecosystem services
24	Colorado Conservation Exchange – Heather Knight
29	Climate change
Oct. 1	Climate change
6	Forests – Bill Romme
8	Exam
13	Energy – Tom Plant
15	Water – Reagan Waskom
20	Soil – Gene Kelly
22	Biodiversity and habitat fragmentation
27	Biodiversity and habitat fragmentation
29	CSU- A green university – Carol Dollard
Nov. 3	Food production
5	Food production

	10	Grass-finished beef at Sylvan Dale Ranch – David Jessup
	12	Local food – Michael Baute
	17	Reflections-out of class assignment
	19	The movie Green Fire
	24	No class-Thanksgiving Break
	26	No class-Thanksgiving Break
Dec.	1	Working in the Radical Center
	3	Conservation that works—from regional to local
	8	Course evaluation
	10	Final exam