

NR 120, Fall 2023

Environmental Conservation

Schedule:

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

Professors and Teaching Assistant:

Please come see us! Below, we list our office hours, which is a great way to reach us. Email is preferred and remember that all emails to me or Julia should contain “NR120” in the Subject Line.

Professor	Office and Email	Office hours
Dr. Richard L. Knight	208 Forestry Building richard.knight@colostate.edu	T – 9:30-10:30; Th – 9:30-10:30. And by appointment

Teaching Assistant	Office and Email	Office hours
Julia Branstrator	202 Forestry Building julia.branstrator@colostate.edu Additional access to TA office hours is provided virtually through Microsoft Teams – link provided by emailing Julia and making a Teams office hours appointment	T – 1:00-2:00; Th – 1:00-2:00.

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 current issues and conclude by evaluating the potential actions that individuals and societies can take for environmental sustainability.

NR120 is framed around a puzzle of great contemporary significance. The daily news and the scientific literature suggest that humanity faces 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 of those differing schools of thought:

- 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.
- 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 loom large today, including population growth, natural resource management, biodiversity, climate change, wilderness, food production, 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 conservation is 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 facts, theories, and opinions presented in the media.

Required Resources:

The application for the iClicker on your mobile device. Every lecture will begin with a quiz on the previous lecture. You can download the iClicker Reef application from the Google Play or app store on your mobile device which can be used as an iClicker remote.

Class website

The class webpage is listed under the CSU CANVAS site. Log in with your electronic identity (EID) and password. The web page will contain lecture notes, readings, 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%.

Weekly web-page readings and quizzes, 30%.

Reflection essay, 5%

Mid-term exam, 25%.

Final exam: 25%.

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 begins at 8 am with quizzes (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 iClicker Cloud software. This software allows you to use an iClicker remote or your mobile device to register iClicker answers. Bring and use your own clicker/mobile device to answer questions. These clickers will instantly register your answers.

It is very important that you register your I-clicker account on the class CANVAS page. If you do not your scores will not register, and it will show up blank on your grades sheet displayed on CANVAS! Blank grades will be entered in the grade book as zeros before your final exam. Contact our Teaching Assistant, Julia, with any technical difficulties.

Beginning Tuesday of week 3 (September 5) there will be no excuses accepted for not having your clicker or iClicker software installed on your mobile device to participate in quizzes.

Visit CSU's iClicker page (<https://canvas.colostate.edu/iclicker/>) to read FAQs and find IT support information, or you may contact our Teaching Assistant, Julia, with any technical difficulties.

Out-of-class readings and exercises:

There will be weekly readings and exercises on the course web page that relate to the lecture material followed by questions you will answer. ***The readings will be opened on Fridays at 8:30. The readings will be closed at 5pm the Friday of that week—no exceptions.*** Check the web page every week to ensure you don't miss this activity!

Reflection Essay:

During your Thanksgiving Break you will be asked to reflect on the content of the course and the state of our Home Planet and **write an essay and submit it to our CANVAS web page, no later than 27 November. Points will be taken off for each day the essay is overdue.** This essay is worth 5% of your total grade.

Extra Credit Opportunities:

There are three extra credit opportunities - workdays on conserved ranches: Eight points (two clicker quizzes) will go to missed clicker quizzes/questions for each workday. *Following each workday you have seven days* to email a one-paragraph description of the work you did to Julia.

1. To be determined– 9 September. To be determined.

2. Two Hat Ranch fence day – 7 October, Saturday, The Two Hat Ranch has a conservation easement with The Nature Conservancy. We will be rebuilding an internal ranch fence to allow more effective grazing by livestock (and minimizing overgrazing).

3. Roberts Ranch restoration workday with Wildlands Restoration Volunteers – 21 October, Saturday. We will be working in Campbell Valley on the Roberts Ranch to slow down soil erosion in a wetland.

Classroom Etiquette:

- ***My teaching philosophy is this—this class is dedicated to those students who take their education seriously, for those who don't, that is a different subject!***
- Please do ask questions! This keeps the class more interesting and course material easier to understand.
- Go to the bathroom before class begins, arrive before class begins, and do not leave class before it ends!
- Do not take the clicker quiz at the beginning of class and then leave—not only will you receive no points for the quiz but you will not be allowed to return to class until your behavior has been corrected!

- Do not use your cell phone, read newspapers, or use your laptop for anything other than notes in this class.
- In a nutshell, inappropriate classroom behavior is any behavior that distracts from the learning opportunities of other students. Respect them, they are your fellow Rams!

Academic Integrity:

We expect you to take your education seriously 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.

If you have experienced sexual harassment, sexual assault, dating violence, domestic violence, and/or stalking, know that you are not alone. Confidential victim advocates through the Victim Assistance Team in the Women and Gender Advocacy Center are available 24 hours a day, 365 days a year to provide support at 970-492-4242. For full information about reporting sexual harassment, sexual assault, dating violence, domestic violence, stalking and/or retaliation please go to the [Office of Title IX Programs and Gender Equity](https://titleix.colostate.edu/title-ix/reporting-options/) (<https://titleix.colostate.edu/title-ix/reporting-options/>).

Lecture Topics

Date	Topic
Aug. 22	Land Acknowledgment & Course Overview
24	Land and people
Aug. 29	Land and people and ethics
Aug. 31	Land and people: to be healthy, ecosystems need to be...
Sept. 5	The mystery of the Sierra Madre: Apache, Aldo Leopold, and the Land Ethic
7	Population growth & consumption
12	Population growth & consumption
14	Wildlands Restoration Volunteers – Nate Boschmann
19	Ecosystem services
21	Ecosystem services
26	The restorative power of Nature – Sarah Walker
28	Private lands conservation
Oct. 3	Climate change
5	Climate change
10	Exam
12	CSU: A Green University – Carol Dollard
17	Water – Jessica Thrasher
19	Forests – Bill Romme

	24	Biodiversity and habitat fragmentation
	26	Biodiversity and habitat fragmentation
Oct.	31	Outdoor recreation – managing for coexistence of people and wildlife
Nov.	2	Food production
	7	Food production
	9	Values and empathy: Building bridges across people and land
	14	The movie <i>Green Fire</i>
	16	Tourism and conservation – Julia Branstrator
	21	No class-Thanksgiving Break
	23	No class-Thanksgiving Break
	28	Working in the Radical Center
	30	Reintroducing wolves to Colorado – Rebecca Niemiec and Eric Odell
Dec.	5	Course evaluation
	7	Final exam – 8:00 – 9:15 am