



University of Colorado Boulder

ENVIRONMENTAL ECONOMICS

ECON 3545 SYLLABUS

Instructor: Dr. Sara Avila

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Mobile: (720) 327-1396

Additional ways to contact Dr. Avila:

- **Online Office Hours:** Wednesdays 11 am -12:30 pm and Thursdays 10 am -12 pm using Canvas Chat or Zoom
- **On campus Office:** Tuesdays 10:30 am-11:30 am. Economics 06A, UCB, Boulder CO, 80309.

INSTRUCTOR BIO

I am an economics instructor with almost two decades of experience teaching in public and private universities. My research interests are in the fields of environmental and urban economics. I have worked on topics related to air quality, climate change, urban transportation, and biodiversity conservation. I am passionate about building understanding in a diverse environment. I am always learning about better methods to communicate and teach.

I am also an avid runner and have a deep affection for the meals that my husband cooks.

Term Start: UPDATED EVERY TERM

Term End: UPDATED EVERY TERM

COURSE WEBSITE

Canvas is our class website:

- Login using your University of Colorado Boulder identikey and password <https://canvas.colorado.edu/>
- Under Course List, click "ECON 3545: Environmental Economics"
- Note: all email correspondence will be through your CU Boulder email address.
 - Do not use the Canvas email or messages, it is not checked.

COURSE DESCRIPTION

Economics has been central as a cause of natural resource degradation and it is also at the core of the solution to most environmental problems. A primary goal of this course is to develop insight as to how humans manage natural resources and why. Once we understand incentives, then we can propose policies aiming at the conservation of natural resources. We will focus on understanding a list of the core concepts that do most of the heavy lifting in environmental economics. Students will have the opportunity to apply their new knowledge toward understanding current environmental problems.

COURSE OBJECTIVES

By the end of the course you should be able to:

1. Identify environmental problems, emphasizing the optimal role for public policy relative to a market inefficiency.
2. Determine the economic information and tool required to address an environmental problem and how to apply them.
3. Explain the building blocks and tools of environmental economics so that you can comprehend the research in environmental economic texts and articles.
4. Concisely and effectively communicate environmental economics findings and recommendations to policymakers.

REQUIRED COURSE MATERIALS

Textbook (required): Tietenberg and Lewis: Environmental and Natural Resource Economics, 11th edition. ISBN: 978-1-138-63229-5 (hbk) and ISBN: 978-1-315-20834-3 (ebk).

Course Website: <https://canvas.colorado.edu/> (Canvas) Grades and any further additional readings will be posted on Canvas. Please check Canvas frequently for any relevant notifications/changes that may occur throughout the course.

SUPPLEMENTAL MATERIAL

Supplemental readings and other materials will be provided in Canvas system, via the CU Library electronic reserve, or by links to websites.

INSTRUCTIONAL METHODOLOGY AND DELIVERY

This course is delivered via distance education format using the CU Canvas system. This format will use a combination of readings, online discussion, and other web-based resources. You will interact with the instructor and other students using the communication functions provided by Canvas. You will submit assignments in accordance with the course outline using Canvas.

COURSE PRESENTATION AND PROCEDURES

There will be 14 modules corresponding to the 14 weeks of the course (1 module per week). You should proceed through one module per week, which will be comprised of readings from the course texts, supplemental class notes, graded discussion questions, homeworks and quizzes, exams, and various outside sources of information such as additional readings and video content, among other content.

COURSE OUTLINE

Review the separate weekly class schedule found on Canvas under “Syllabus” link.

CLASS PARTICIPATION

This course is designed to engage you through class discussions on the topics covered in the course materials. It is important that you participate in class discussions to facilitate learning by other students and gain exposure to different viewpoints of other students in the class. It is therefore necessary to participate throughout the week in the discussion questions, not wait until the last minute to post on discussion topics.

EVALUATION AND GRADING

Course grades will be determined by the completion of assignments, exams, and discussions, as shown below:

Assignment	<i>Points per Assignment</i>	<i>Frequency</i>	<i>GRADE POINTS</i>	<i>GRADE PERCENTAGE</i>
Paper	200	1	200	20.0%
Discussions (post + response)	20	8	160	14.0%
Exercises*	20	7	140	14.0%
Quizzes*	20	5	100	7.5%
Proctored Midterm Exam	150	1	150	15.0%
Proctored Cumulative Final Exam	250	1	250	25.0%
TOTAL			1000	= 100%

Keep a copy of all work created for the course, including work submitted through Canvas.

*The lowest grade of these assignments will be dropped. See below.

COURSE GRADING CRITERIA

<i>Grade</i>	<i>Percentage Grade</i>	<i>Equivalent Points</i>	<i>Indicates</i>
A	93-100	930 – 1000	<i>Excellent</i>
A-	90-92.99	900 – 929	
B+	87-89.99	870 – 899	
B	83-86.99	830 – 869	<i>Above Average</i>
B-	80-82.99	800 – 829	
C+	77-79.99	770 – 799	
C	73-77.99	730 – 769	<i>Average</i>
C-	70-72.99	700 – 729	
D+	67-69.99	670 – 699	
D	63-67.99	630 – 669	<i>Below Average</i>
D-	60-62.99	600 – 629	
F	0-59	600 or lower	<i>Failure</i>

There is +/- grading in this class.

ASSIGNMENTS

Paper (200 POINTS) – There will be one individual written writing assignment. This assignment will be 3 pages in length (2 pages of content and 1 page of resources), single spaced, Times New Roman 12 point font, 1” margins. This writing assignment as well as preliminary one-page proposal will be submitted through Canvas.

The paper should relate to an environmental policy issue and must answer: How can economics inform public policy related to this issue?

This is a document that could be handed to policymakers and that educates them about an issue and argues for a policy position. There will be one on one meeting with the professor. Students must submit a one-page proposal the day before the meeting. This project will be discussed in more detail subsequently.

The evaluation of the assignment will be based in part on the following criteria:

- a) The ability to convey an argument clearly and coherently.
 - b) The ability to use and synthesize the course material.
 - c) The ability to acquire and apply information from appropriate sources.
 - d) Competence in standard written English (including proper use of syntax, grammar, punctuation and spelling as well as use of appropriate vocabulary, formatting, and references).
- Keep in mind that plagiarism is a form of academic dishonesty. Plagiarism is defined as the use of another's ideas or words without appropriate acknowledgment. Examples of plagiarism include: failing to use quotation marks when directly quoting from a source; failing to document distinctive ideas from a source; fabricating or inventing sources; and copying information from computer-based sources, i.e., the Internet. *For more information, please use the link provided on Canvas.*

Discussion postings (120 POINTS) - There will be a 20-point discussion posting associated with most modules.

- The discussion will occur asynchronously; I will post a discussion question and you will respond to the questions at your convenience prior to the due date. Discussions are open book and open note and will be submitted through Canvas. See the class schedule for due dates of posts and comments. The initial discussion post is due on Thursday and the discussion response is due on Sunday.
- Your lowest one (1) discussion posting will be dropped from your final grade calculation.

Exercises (180 POINTS) - There will be a 20-point exercise associated with most modules.

- Exercises will consist of longer, quantitative questions where you will complete questions while showing your work. Problem sets will be accessed through Canvas and you will have to scan your completed problem set in order to submit the problem set on Canvas.
- Your lowest one (1) exercise will be dropped from your final grade calculation.

Quizzes (80 POINTS) –There will be quizzes associated with most modules each worth 10 points. The format of the quizzes will be multiple choice, calculations, and short answers and will be open book and open notes. Your lowest one (1) quiz are dropped from your final grade calculation. Quizzes will be submitted through Connect. Quizzes are always due on Sunday.

Exams (400 POINTS) – There will be two (2) exams. The proctored midterm exam is worth 150 points and the proctored cumulative final exam is worth 250 points. The format of the exam will be multiple choice and calculations and will be closed book. The exams are completed on Connect in a proctored setting.

This course requires proctored examinations. Exams are proctored which will require planning on your part. Proctors are individuals who administer the exam process following the guidelines provided by University of Colorado Boulder to ensure academic integrity.

Who can be my proctor?

If you are in Boulder or nearby, you can take your exam:

1. **With me** at the Department of Economics. There is no cost for using this proctor. This option is only on selected days during the exam period.
2. At the **University Testing Center** on-campus in Boulder, CO. There may be a cost for using the testing center. This option is only available M-F during regular business hours.
3. With **ProctorU**. Online proctoring is a service that uses a webcam and microphone to ensure academic integrity. To use this service, you must have access to a computer with a webcam and a microphone. There will be a cost for using the online proctoring services.

If you are outside of Boulder, you can take your exam:

1. At an **accredited college or university testing center** in your town or nearby. There may be a cost for using this testing center.
2. With **ProctorU or a comparable online proctoring service as determined by your instructor**. Online proctoring is a service that uses a webcam and microphone to ensure academic integrity. To use this service, you must have access to a computer with a webcam and a microphone. There will be a cost for using the online proctoring services.

Please see Canvas for detailed information about proctoring, including the contact information for the UTC, ProctorU, and a nationwide list of accredited college or university testing centers. If you are in a rural area or on a military base, you may need to be approved to use a person as a proctor and information is provided on Canvas for this approval process.

EXTRA CREDIT

There may be 50 points of extra credit available (= 5% of the course grade).

- Extra credit will be available during the semester for completing certain activities, such as listening and commenting on a podcast, etc. These extra credit opportunities will be determined by the instructor and announced on Canvas.

COMMUNICATION

I am nice and I want you to succeed. Do not hesitate to contact me about anything.

E-mail: sara.avila@colorado.edu

- Please always remind me of what course you are taking. I teach a bunch of courses, and I have more than 150 students. Sometimes I forget what course you are taking, especially at the beginning of the semester.
- I will respond to email within 12-18 hours, but usually within 2-4 hours. I always respond to emails. If you have not had a response within 18 hours, I did not receive the email. Be sure to use your CU email address because sometimes Gmail and yahoo email accounts are filtered into my spam folder.

Additional ways to contact Dr. Avila:

- Online Office Hours: Tuesdays and Thursdays 9am-noon. using Zoom (<https://cuboulder.zoom.us/my/saraavila>)
- Announcements: Please check the “announcements” section on Canvas.
- Use the “Place to Talk” discussion space.

TUTORING

The Economics Department provides a free drop-in tutorial office which offers assistance on all core courses in the major, and occasionally on other undergraduate courses in the Department. Its website is <https://www.colorado.edu/economics/node/513/attachment>.

The Economics Department maintains a list of tutors who are available for private hire. Its website is <https://www.colorado.edu/economics/node/515/attachment>.

TECHNOLOGY SUPPORT

CU Boulder uses Canvas. Here is the list of recommended system requirements: [Canvas Computer Specifications Page](#)

Here is the detailed list of internet browsers in Windows, MacOS, iOS and Android: [Supported Browsers Page](#)

Technical Support

- Canvas technical support. If you are experiencing issues with Canvas please contact:
 - CU Boulder's Help desk at 303-735-4357 (5-HELP) or help@colorado.edu. 5-Help will answer your call: Monday through Friday from 7:30 a.m. to 7:00 p.m., Saturday and Sunday from noon to 6:00 p.m., Closed during [University Holidays](#)
 - On your computer, click the “help” (?) icon on the left side of Canvas, once logged in within the Canvas App, you can search the Canvas support guides, Report a Problem or chat with Canvas Support 24 hours a day, 7 days a week.
- Cengage tech support:
<https://help.cengage.com/mindtap/mt-student/common/contact-support.html>

ACCEPTABLE USE OF AI IN THIS CLASS

In this class, the AI policy is composed of two levels that depend on the assignment. Specific instructions might be required in some assignments.

- Careful AI Use
- AI Free Zone

Below are the general guidelines and examples:

● CAREFUL AI USE

You may use AI if you get stuck in solving a maximization problem. You may use AI to help you understand a concept. You may use it as a tutor, or to make a summary of the material.

Some students have used AI to do the entirety of the Homework for them. There are two problems: the first one is that the student loses the opportunity to think about the problem an exercise their own brain.

The second is that in some instances, the AI tool hallucinates and generates non-existent citations and results. –Avoid those two problems by doing the work yourself and using AI only to complement you.

Avoid using AI to write. You don't get a better grade for impeccable grammar and fancy words. I am not grading your writing skills. Use the opportunity to practice using your own words.

When you submit your work, make a note saying: "I used AI when I got stuck" or "I used ChatGPT as a tutor." Transparency is useful for you and for everyone!

You are responsible about your final submission.

● AI FREE ZONE

When discussing economic journals or podcasts on Perusall I ask for your reflections and lived experiences. AI is not permitted here, because we're prioritizing authenticity and perspective. I just want to hear your voice.

Quizzes are proctored. You cannot use any external help. This is meant to level the field for everyone and nudge you to keep using your brain.

Exams are proctored. You cannot use any external help. You risk getting flagged and facing consequences for dishonest behavior. I don't want you to be anxious about exams, but it's important that you answer using your own brain.

In short, AI is not allowed on Perusall Assignments, Proctored Quizzes and Proctored Exams.

POLICY ON DUE DATES

Each week you will complete Perusall discussions and Homework. It is your responsibility to turn in each assignment on the required date. Homework or discussion postings turned in after the scheduled due date will be lowered to the next letter grade for each 12-hour period late. The exceptions that may be considered is due to sickness, university excused function, or circumstances beyond the students' control. The instructor reserves the sole right to determine what grounds constitutes a reasonable excuse for missing or submitting a late work assignment, the right to require the student to submit proper verification of such excuse.

COURSE WITHDRAWAL POLICY

Any student who wishes to withdraw from the course must submit a request directly to Continuing Education. For complete information, please visit their website at <https://ce.colorado.edu/resources/topics/dates-and-deadlines-general-info/>

NETIQUETTE

All students should be aware that their behavior impacts other people, even online. I hope that we will all strive to develop a positive and supportive environment and will be courteous to fellow students and your instructor. Due to the nature of the online environment, there are some things to remember.

1. Always think before you write. In other words, without the use of nonverbals with your message, your message can be misinterpreted. So please think twice before you hit submit.
2. Keep it relevant. There are places to chat and post for fun everyday stuff. Do not stray from the discussion in the assigned questions.
3. Don't use all caps. This is the equivalent of yelling in the online world.
4. Make sure that you are using appropriate grammar and structure. In other words, do not use "R U" instead of "are you". There are people in the class that may not understand this type of abbreviation, not to mention it does nothing to help expand your writing and vocabulary skills. Emoticons are fine as long as they are appropriate. A smile 😊 is welcome, anything offensive is not.
5. Treat people the same as you would face-to-face (or kinder). It might be easy to hide behind the computer. Treat all with dignity and respect.

Website: <http://www.albion.com/netiquette/corerules.html>

Compiled by Melissa Landin, Instructor, Dept. of Communication, Inver Hills Community College, mlandin@inverhills.edu

ACCOMODATION FOR DISABILITIES, TEMPORARY MEDICAL CONDITIONS AND MEDICAL ISOLATION

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website.

ACCOMODATION FOR RELIGIOUS OBLIGATIONS

Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please communicate the need for a religious accommodation in a timely manner.

CLASSROOM BEHAVIOR

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, marital status, political affiliation, or political philosophy.

For more information, see the [classroom behavior policy](#), the [Student Code of Conduct](#), and the [Office of Institutional Equity and Compliance](#)

HONOR CODE

"On my honor, as a University of Colorado Boulder student
I have neither given nor received unauthorized assistance."

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. Understanding the course's syllabus is a vital part in adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

SEXUAL MISCONDUCT, DISCRIMINATION, HARRASSMENT AND/OR RELATED RETALIATION

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits protected-class discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email cureport@colorado.edu. Information about university policies, reporting options, and support resources including confidential services can be found on the OIEC website.

Please know that faculty and graduate instructors must inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support for a variety of concerns, visit the Don't Ignore It page.

PREFERRED STUDENT NAMES AND PRONOUNS

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

MENTAL HEALTH AND WELLNESS

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting

academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.

ADDITIONAL SUPPORT SERVICES

A variety of instructional support services, such as writing center, guidance on personal or educational issues, tutoring questions and library resources are available to the students. For more information about their services, visit their websites linked under modules on Canvas.



Environmental Economics, ECON 3545, with Avila

Module (start date)	Topic	Graded Assignments	Due Date by 11:59pm MST/MDT
1 (1/20)	1 Visions of the Future Paper: How Economists See the Environment (Fullerton & Stavins, 1998).	Quiz module 1 Discussion posting module 1 Discussion comment module 1	Thursday 1/23 Thursday 1/23 Sunday 1/26
2 (1/27)	2 The Economic Approach, Property Rights, and Externalities	Quiz module 2 Exercise module 2	Thursday 1/30 Sunday 2/2
3 (2/3)	3 Benefits and Costs	Discussion posting module 3 Exercise module 3 Discussion comment module 3	Thursday 2/6 Sunday 2/9 Sunday 2/9
4 (2/10)	4 Valuing the Environment: Overview Paper: Economic Valuation (Tegenie, 2015). Paper: Report NOAA Panel on Contingent Valuation (Arrow et al., 1993)	One-page proposal One on one meeting Exercise module 4	Thursday 2/13 Friday 2/14 Sunday 2/16
5 (2/17)	4 Valuation: Hedonic Pricing and Contingent Valuation	Quiz module 5 Discussion posting module 5 Exercise module 5 Discussion comment module 5	Thursday 2/20 Thursday 2/20 Sunday 2/23 Sunday 2/23
6 (2/24)	5 Dynamic Efficiency and Sustainable Development	Discussion posting module 6 Discussion comment module 6	Thursday 2/27 Sunday 3/1
7 (3/2)	You may take the PROCTORED midterm exam the day of your choosing Thursday through Sunday.	Proctored Midterm Exam	Thursday 3/5 - Sunday 3/8
8 (3/9)	7 Energy-Transition to Renewables	Exercise module 8 Quiz module 8	Thursday 3/12 Sunday 3/15
9 (3/16)	12 Tragedy of the Commons	Exercise module 9 Discussion posting module 9 Discussion comment module 9	Thursday 3/19 Thursday 3/19 Sunday 3/22
10 (3/30)	13 Biodiversity Loss	Exercise module 10 Discussion posting module 10 Discussion comment module 10	Thursday 4/2 Thursday 4/2 Sunday 4/5
11 (4/6)	14 & 15 Pollution Control: Stationary Source Air Pollution	Discussion posting module 11 Quiz module 11 Discussion comment module 11	Thursday 4/9 Thursday 4/9 Sunday 4/12
12 (4/13)	16 Pollution Control: Mobile Source Air Pollution	Quiz module 12 Exercise module 12	Thursday 4/16 Sunday 4/19
13 (4/20)	17 Climate Change	Exercise module 13 Discussion posting module 13 Discussion comment module 13	Thursday 4/23 Sunday 4/26
14 (4/27)	You may take the PROCTORED cumulative final exam the day of your choosing Thursday through Sunday.	Proctored Final Exam	Thursday 4/30 - Sunday 5/3