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# ISSUES IN ENVIRONMENTAL ECONOMICS SYLLABUS, SPRING 2018

## ECON240.002/AREC240.002

TUESDAYS & THURSDAYS FROM 12:30 TO 1:45PM IN MILITARY SCIENCES, 200

### INSTRUCTOR

Dr Jo Burgess Barbier

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Office: Clark 320a, T, Th 12:30/2:00pm or by appointment

### COURSE DESCRIPTION

An understanding of economics is important to understanding why problems of environmental degradation occur. This introductory course is designed for students with little or no background in economics. The course examines in detail the relationship between the economy and environmental degradation and management. Basic economic concepts and relationships are covered, such as the demand, supply and efficient allocation of natural resources. Economic values, incentives, institutions and policies governing environmental degradation are also examined. These important building blocks enable us to study and evaluate key environmental problems from an economic perspective and examine in detail a range of management issues and policy responses. The course is structured as follows:

- First, we explore the concept of sustainable economic development and the economic theory of environmental degradation.
- Second, we examine the underlying causes of environmental degradation (e.g. externality, open access and public goods) and the role of benefit-cost analysis in analyzing environmental problems.
- Third, we explore a range of policy options to protect the environment, such as voluntary action, establishing property rights, setting environmental standards, taxes or subsidies, and tradeable pollution permits.
- Economic concepts of environmental degradation and management are then applied to a range of real world issues, such as those involving land, water and air. The implications for sustainable economic development at the local and global level are discussed.

### COURSE OBJECTIVES

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

- understand basic economic concepts and tools of environmental economics
- understand underlying causes of environmental degradation and policy options to manage the problem
- apply critical economic thinking to real world environmental problems and policy solutions

### COURSE PREREQUISITES

None. You may not receive credit for both Econ 240 and AREC 240.

## COURSE REQUIREMENTS

This course meets the [All-University Core Curriculum \(AUCC\)](#) requirements for Social/Behavioral Sciences (Category 3C) and is approved under [GTPathways](#) in the content area of Economic or Political Systems (GT-SS1). This course is an approved GT Pathways course which allows students to transfer the credit of this course to another Colorado higher education institution. To help eliminate the guesswork of transferring general education course credits, Colorado has developed a statewide guaranteed transfer (GT) program. To satisfy this requirement, 25% of students' grades must be attributed to written work. This course satisfies this requirement through the research paper as well as the short answer sections of the exams.

GT pathways writing requirement:

- At least 25 percent of the course grade must be based on written work that satisfies the following:
- At least one writing assignment must be an out-of-class piece of written work.
- In-class written work, such as on exams, must be in the form of essays.

Expectations of written work include students demonstrating:

- The ability to convey a theme or argument clearly and coherently.
- The ability to analyze critically and to synthesize the work of others.
- The ability to acquire and apply information from appropriate sources, and reference sources appropriately.
- Competence in standard written English.

## COURSE MATERIAL

Field, Barry. 2017. *Natural Resource Economics: An Introduction*. 3<sup>rd</sup> edition (or most recent). Waveland Press, Inc. ISBN: 978-1-4786-2780-7 (pbk)

Barbier, Edward B. and Markandya, Anil. 2012. *A New Blueprint for a Green Economy*. Routledge (Taylor and Francis Books), London and New York. ISBN: 978-1-84971-353-5 (pbk)

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

## COURSE WEBSITE

Canvas is our class website: <http://info.canvas.colostate.edu>.

- Login using your Colorado State University eID and password
- Under Course List, click "2018SP-ECON-240-002: Issues in Environmental Economics"
- Note: all email correspondence will be through your **CSU rams email address**.
- Grades, presentations and additional reading will be posted on Canvas.

## INSTRUCTIONAL METHODOLOGY AND DELIVERY

Class will be composed of lecture (might include power-points, worksheets, videos, news articles, etc.), group discussion, homework assignments, papers, group work, and student presentations. You are expected to read the assigned readings each day and participate in the group discussions held.

## COURSE REQUIREMENTS AND GRADE DETERMINATION

The academic requirements of this course consist of 10 short answer quizzes, 1 group presentation, 1 research paper, 2 short exams and 1 final exam. Course grades will be determined by the completion of assignments, exams, and discussions, as shown below:

<b>Assignment*</b>	<b>Points per Assignment</b>	<b>Frequency</b>	<b>GRADE POINTS</b>	<b>GRADE PERCENTAGE</b>
Short answer quiz	(1)	* (10)	= 10	10%
Research Paper	(25)	* (1)	= 25	25%
Short Exam	(20)	* (2)	= 40	40%
Final Exam	(25)	* (1)	= 25	25%
<b>TOTAL</b>			<b>= 100</b>	<b>= 100%</b>

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

### COURSE GRADING CRITERIA

<b>Grade</b>	<b>Percentage Grade</b>	<b>Equivalent Points</b>	<b>Indicates</b>
<b>A+</b>	98-100	98-100	
<b>A</b>	92-97.99	92-97.99	Excellent
<b>A-</b>	90-91.99	90-91.99	
<b>B+</b>	88-89.99	88-89.99	
<b>B</b>	82-87.99	82-87.99	Above Average
<b>B-</b>	80-81.99	80-81.99	
<b>C+</b>	78-79.99	78-79.99	
<b>C</b>	72-77.99	72-77.99	Average
<b>C-</b>	70-71.99	70-71.99	
<b>D</b>	60-69	60-69	Below Average
<b>F</b>	0-59	0-59	Failure

There is +/- grading in this class.

## CLASS PARTICIPATION

This course is designed to engage students through class discussions on the topics covered in the course materials. It is important that all students 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 and read the required readings for the week prior to class.

## COURSE ASSIGNMENTS

**Quizzes (10 quizzes, each 1%, 10% total):** Ten short answer quizzes consisting of 5 questions per quiz will be administered during the start of class each Tuesday. The answers will be graded and the responses will be discussed in class that Thursday. Short answer question feedback will help each student develop his or her understanding of the content of the class and develop student's oral communication skills. If a student is absent for a quiz, the quiz will be graded as zero.

**Presentation (1 group presentation):** Students will select an environmental problem related to one of the following: i. fish; ii. forests and wildlife; iii. minerals and energy; iv. water; v. climate; and, vi. sustainable development. Topic groups will then be established. Topic groups will provide the class with a 10-minute group presentation of their environmental issue on the week the specific topic is addressed in class.

**Research paper (1 research paper, 25%):** The research paper applies the economic concepts and tools learnt in this course to an environmental issue of interest to the student. The research paper (1,000 words) will build on the general research undertaken for the group presentation but will be written entirely by the individual student on their specific topic of interest. This assignment will test your ability to write using grammar, mechanics, formatting, vocabulary, and documentation appropriate for economics. You will need to analyze the material, evaluate it from the mindset of an economist and recognize conflicting issues. Through this process you will be able to effectively discuss and assess environmental issues from an economic standpoint and be able to apply your knowledge and reasoning to make suggestions and recommendations. As part of the writing process you will be required to submit a rough draft beforehand through Canvas. This rough draft will be used in an in-class peer review process. In addition to a hard copy of the final draft, you will be required to submit an electronic copy to a plagiarism detection program (i.e., VeriCite on Canvas) to receive a grade.

**Short exams (2 short exams, each 20%, 40% total):** Two short exams, each consisting of 20 short answer questions based on that section's course material, i.e. not cumulative, will be held in-class during the semester.

**Final exam (1 final exam, 25%):** The final exam will be held at the end of the semester and will consist of 25 short answer questions. This will draw on material from the entire course, i.e. will be cumulative.

## POLICY ON DUE DATES

A research paper handed in after the due date will automatically lose 10% for each day late. If the final research term paper is more than three days late, it will not be graded and will receive zero points. This policy is not negotiable.

Make up of quizzes, short exams, final exam, presentation and research paper is not possible in this course, unless a university-recognized excuse is communicated to the instructor in advance. This policy is not negotiable.

## POLICY ON EXTRA CREDIT

Extra credit may be awarded at the discretion of the Instructor during the semester.

## WEEKLY COURSE TIME ESTIMATES

Attend class	3 hours
Review class material	2 hours
Study for quizzes/exams	2 hours
<u>Writing assignments &amp; group presentation</u>	<u>2 hours</u>
Total hours/week	9 hours

## ATTENDANCE POLICY

Students are expected to attend all classes. Any student who fails to attend regularly will inevitably fall behind and find that his or her performance is badly affected.

## COURSE WITHDRAWAL POLICY

Any student who wishes to withdraw from the course must submit a request directly to Division of Continuing Education. For complete information, please visit their website at <http://www.learn.colostate.edu/help/creditstudents/registration/drop-policy.dot>

## CLASSROOM DEPARTMENT/DECORUM

Students are expected to treat each other and the instructor with respect, and to be civil during in-class group discussion. Ancillary talking during class is discouraged; cells/pdas/smart phones should be turned off; and laptop and electronic devices should be used for note taking only. Please inform the instructor if you are going to be late for class or have to leave early.

## ACADEMIC INTEGRITY

We take academic integrity seriously. At minimum, academic integrity means that no one will use another's work as their own. The CSU writing center defines plagiarism this way:

“Plagiarism is the unauthorized or unacknowledged use of another person's academic or scholarly work. Done on purpose, it is cheating. Done accidentally, it is no less serious. Regardless of how it occurs, plagiarism is a theft of intellectual property and a violation of an ironclad rule demanding credit be given where credit is due.”

—Writing Guides: Understanding Plagiarism.

<http://writing.colostate.edu/guides/researchsources/understandingplagiarism>

Academic Dishonesty could result in expulsion from the university. This course will adhere to the CSU Academic Integrity Policies and Guiding Principles as found in the General Catalog and the Student Conduct Code. As per university policy: “Any student found responsible for having engaged in academic dishonesty will be subject to academic penalty and/or University disciplinary action.” (General Catalog 2011-2012, 1.6, p.8).

Any academic dishonesty in this course may result in a grade of “F” for the course and may be reported to the Office of Conflict Resolution and Student Conduct Services. Please be aware that the General Catalog specifically identifies the following examples of academic dishonesty: cheating in the classroom, plagiarism, unauthorized possession or disposition of academic materials, falsification, and facilitation of

cases of academic dishonesty. Plagiarism is defined as follows: "Plagiarism includes the copying of language, structure, ideas, or thoughts of another, and representing them as one's own without proper acknowledgement. Examples include a submission of purchased research papers as one's own work; paraphrasing and/or quoting material without properly documenting the source." (General Catalog 2011-2012, 1.6, p.8). Of course, academic integrity means more than just avoiding plagiarism and cheating. It also involves doing your own reading and studying. It includes class attendance, careful consideration of all class materials, and engagement with the class and your fellow students.

## CSU HONOR PLEDGE

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course. While you will not be required to affirm the honor pledge, you will be required to affirm the following statement:

"I have not given, received, or used any unauthorized assistance."

Further information about Academic Integrity is available at CSU's [Practicing Academic Integrity](#).

## DEPARTMENT COPYRIGHT POLICY

Please do not share material in this course in online, print or other media. Materials authorized by third parties and used in the course are subject to copyright protection. Posting course materials on external sites (commercial or not) violates both copyright law and the CSU Student Conduct Code. Students who share course content without the instructor's express permission, including with online sites that post materials to sell to other students, could face disciplinary or legal action.

## CLASSROOM CONDUCT

Students are required to act respectfully in the classroom at all times, any disruptive behavior that inhibits fellow-student learning will not be permitted and will constitute a one day removal from lecture/recitation; a second offense will require a formal meeting with the student, instructor, and TA. Such behavior includes holding conversations during lecture/recitation, any unauthorized cell phone, laptop, or tablet use, or other behavior which detracts from the class.

## ACCOMMODATIONS AND TUTORING OPTIONS

- **Resources for Disabled Students:** Students with disabilities may be eligible for accommodations in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. It is the student's responsibility to disclose any learning disabilities. Please contact the instructor if a special accommodation is required. To request accommodations, students should contact Resources for Disabled Students at (970) 491-6385 or go to <http://rds.colostate.edu>. Documentation of disability is required and the RDS office will assist in this process.
- **Free Tutoring:** Free tutoring is available for this course through the Arts & Sciences Tutoring Program. The program is located in the Russell George Great Hall in The Institute for Learning

and Teaching (TILT), and runs **5 p.m. to 10 p.m., on Sunday-Thursday** evenings during the academic year. No appointment is necessary and all students are welcome. For more information and tutoring schedule, please visit:

<http://tilt.colostate.edu/learning/tutoring/artSciences.cfm>

- **Study Group:** Attending this **FREE** program will help you improve your understanding of course material while learning effective study techniques. All study groups are drop-in, so students can come as many times as they want. For more information and study group schedule, please visit: <http://tilt.colostate.edu/learning/tutoring/studyGroups/index.cfm>
- **Writing Center:** Help with written assignments can be found at the Writing Center (<http://writingcenter.colostate.edu>).
- **Canvas technical support:** <http://info.canvas.colostate.edu/student-resources.aspx>

## TITLE IX

CSU's Discrimination, Harassment, Sexual Harassment, Sexual Misconduct, Domestic Violence, Dating Violence, Stalking, and Retaliation policy designates faculty and employees of the University as "Responsible Employees." This designation is consistent with federal law and guidance, and requires faculty to report information regarding students who may have experienced any form of sexual harassment, sexual misconduct, relationship violence, stalking or retaliation. This includes information shared with faculty in person, electronic communications or in class assignments. As "Responsible Employees," faculty may refer students to campus resources (see below), together with informing the Office of Support and Safety Assessment to help ensure student safety and welfare. Information regarding sexual harassment, sexual misconduct, relationship violence, stalking and retaliation is treated with the greatest degree of confidentiality possible while also ensuring student and campus safety. Any student who may be the victim of sexual harassment, sexual misconduct, relationship violence, stalking or retaliation is encouraged to report to CSU through one or more of the following resources: Emergency Response 911, Deputy Title IX Coordinator/Office of Support and Safety Assessment (970) 491-1350, Colorado State University Police Department (non-emergency) (970) 491-6425. For counseling support and assistance, please see the CSU Health Network, which includes a variety of counseling services that can be accessed at: <http://www.health.colostate.edu/>. The Sexual Assault Victim Assistance Team is a confidential student resource that does not have a reporting requirement: <http://www.wgac.colostate.edu/need-help-support>.

## OFFICE HOURS

Cancellation of any office hours or appointments will be notified via a notice on my door, announcement in class or by email. If you wish to see me in person outside of office hours, please make an appointment by email. I encourage students to ask me short questions by email, as this method can be quicker than an appointment if the query is straightforward.

## DISCLAIMER

All of the information in this course syllabus is subject to change when deemed necessary by the instructor. Students will be notified verbally in class, via postings on the class homepage, or by email if such changes occur.

## COURSE SCHEDULE, READINGS AND ASSIGNMENTS

<b>Section 1: Introduction and Key Concepts</b>			
1/14	M1: Economics and the Environment	F, Chp.1,2; B&M, Chp. 1-3	
1/21	M2: Sustainable Economic Development	F, Chp.1,2, 21; B&M, Chp. 1-3	Quiz 1
<b>Section 2: Economic Methods</b>			
1/28	M3: Demand, Supply & Efficient Allocation	F, Chp.3,4; B&M, Chp. 4-6	Quiz 2
2/4	M4: Market & Policy Failures	F, Chp.4,6; B&M, Chp. 4-6	Quiz 3
2/11	M5: Market & Policy Failures	F, Chp.4,6; B&M, Chp. 4-6	Quiz 4
2/18	M6: CBA & Economic Valuation	F, Chp.5,8,9; B&M, Chp. 4-6	<b>Short Exam 1</b>
2/25	M7: Policy Options	F, Chp.7; B&M, Chp. 4-6	Quiz 5 <b>Set Presentation Groups</b>
3/4	M8: Policy Options	F, Chp.7; B&M, Chp. 4-6	Quiz 6
<b>Section 3: Application to Natural Resource &amp; Environmental Problems</b>			
3/11	Spring Break		
3/18	M9: Fish	F, Chp.13; B&M, Chp.4-7	Quiz 7 Presentation G1
3/25	M10: Forests & Wildlife	F, Chp.12,18,19; B&M, Chp 4-7	Quiz 8 Presentation G2
4/1	M11: Minerals & Energy	F, Chp.10,11; B&M, Chp 4-7	<b>Short Exam 2</b> Presentation G3
4/8	M12: Water	F, Chp,14,15,16; B&M, Chp 4-7	Quiz 9 Presentation G4
4/15	M13: Land & Agriculture	F, Chp,14,15,16; B&M, Chp 4-7	Quiz 10, Presentation G5, <b>Draft Research Paper due</b>
4/22	M15: Climate	F, Chp,20,21; B&M, Chp 4-7	Presentation G6
4/29	M16: Global Sustainable Development	F, Chp,20,21; B&M, Chp 7,8	Presentation G7 <b>Research paper due</b>
5/6	<b>CSU Exams week. Final Exam Wednesday 9<sup>th</sup> May, 9:40-11:40am</b>		

## GROUP PRESENTATION SIGN UP

Date	Name	Email	Group Coordinator
3/18	<b>G1: Fish</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
3/25	<b>G2: Forests &amp; Wildlife</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
4/1	<b>G3: Minerals &amp; Energy</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
4/8	<b>G4: Water</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
4/15	<b>G5: Land &amp; Agriculture</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
4/22	<b>G6: Climate</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
4/29	<b>G7: Global Sustainable Development</b>		
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		