

North Carolina State University
Department of Economics
ECG 515, Environmental and Resource Policy
Spring 2016, TH 1:30-2:45, Cox 204

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Office Hours:

Drs. Brown and Taylor are available by appointment T-F, 8am – 6pm
(except T,Th 10:15-11:30)

Objectives

This course will teach you how to analyze environmental and natural resource policies using **economics**.

Prerequisites

The prerequisite for this course is a course in Intermediate Microeconomics, such as EC 301 here at NC State. You should be comfortable with the economic concepts and graphical analysis in such a course. One semester of calculus is a prerequisite for EC 301. While we won't be explicitly using calculus all the time, you should be comfortable with the concepts in such a course.

Grading

There will be two exams during the semester – a mid-term and a non-cumulative final. These exams will each count for 30% of your grade. There will be 4 other assignments throughout the course, comprised of a mix of take-home individual or in-class group exercises. Each of these will account for 10% of your final grade.

Course website

The website for this course can be found at:

<https://moodle1516-courses.wolfware.ncsu.edu/course/view.php?id=4725>

POLICIES

Attendance policy

If you must miss class for excused reasons on one of the mid-term days, inform the instructor no later than two weeks (4 class periods) in advance, so that we can arrange an alternative time for you to take the exam.

Late-work policy

For take-home assignments, no credit will be granted for work turned in after the due date, unless the student emails the instructor – and clears the late submission – in advance. For late work cleared in advance, the student has one week after the due date to turn the assignment in. Otherwise, no credit will be granted.

Code of Student Conduct

All students are bound by the Code of Student Conduct which governs academic integrity at North Carolina State University. Therefore, students are required to review the definitions of academic dishonesty to avoid behaviors which are in violation of this code. In submitting an assignment, students consent that he/she neither gave nor received unauthorized aid. Students who violate the code of student conduct will receive zero points for that assignment only. Please see the website for a full explanation of the University Code of Student Conduct:

http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php

University Policy on Incompletes

The NCSU policy on incompletes can be found in the *Graduate Handbook*. Please review this policy – incompletes will be given only when a student makes a formal request and when appropriate documentation accompanies the written request for an incomplete. Please see the university's policy, available at <http://www.ncsu.edu/grad/handbook/sections/3.18-grades.html#I>.

University Non-discrimination Policies

It is the policy of the State of North Carolina to provide equality of opportunity in education and employment for all students and employees. Accordingly, the university does not practice nor condone unlawful discrimination in any form against students, employees or applicants on the grounds of race, color, religion, creed, sex, national origin, age, disability, or veteran status. North Carolina State University regards discrimination on the basis of sexual orientation to be inconsistent with its goal of providing a welcoming environment in which all its students, faculty, and staff may learn and work up to their full potential. The University values the benefits of cultural diversity and pluralism in the academic community and welcomes all men and women of good will without regard to sexual orientation.

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, (919) 515-7653. For additional information, see http://www.ncsu.edu/provost/offices/affirm_action/dss/. For more information on NC State's policy on working with students with disabilities, please see http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php

End of Semester Evaluations

Online class evaluations will be available for students to complete during the last 2 weeks of each semester. Students will receive an email message directing them to a website where they can login using their Unity ID to complete evaluations. All evaluations are confidential; instructors will not know how any one student responded to any question, and students will not know the ratings for any instructors.

Evaluation website: <https://classeval.ncsu.edu/>

Student help desk: classeval@ncsu.edu

More information about ClassEval: <http://www.ncsu.edu/UPA/classeval/>

Textbooks and recommended references

Required

“Environmental and Natural Resource Economics” by Tom Tietenberg and Lynne Lewis (referred to as TL in the syllabus, any edition will do). While the price for this book is rather high, it serves as a comprehensive reference for the broad concepts and issues in the field.

“Markets and the Environment,” by N.O. Keohane and S.M. Olmstead (referred to as KO in the syllabus). This inexpensive book (<\$30) provides a good overview of many topics covered. NCSU Libraries provides full access to an e-book version of the text here: <http://catalog.lib.ncsu.edu/record/NCSU3355611>

Any other required readings will be provided to you directly (most likely electronically through Moodle in advance).

Recommended

The below texts are not required, but are highlighted here because they provide additional detail on different subtopics in the course:

“A Cartoon Introduction to Economics” (Volumes I & II), by Yoram Bauman and Grady Klein. We will use selected sections of this pair of books at the beginning of the class to review general economic concepts. These books emphasize the intuition behind the key economic concepts like efficiency, marginal analysis as well as externalities. One copy of the selected sections will be on reserve either physically at DH Hill or electronically.

“A Cartoon Introduction to Climate Change,” by Yoram Bauman and Grady Klein. This provides an overview of climate change science and policy (from the perspective of economists) in a format that can be rapidly digested by non-experts. NCSU Libraries provides full access to an e-book version of the text here: <http://catalog.lib.ncsu.edu/record/NCSU3126153>

“A Primer on Nonmarket Valuation,” Champ, Brown and Boyle (eds). This is a standard introductory text providing guidance on the practice of environmental valuation, using revealed and stated preference methods. Useful for master’s theses involving some type of valuation.

Course Schedule and Readings

Subject to change

Date	Topic	Readings
Th 7-Jan	<i>First day of classes</i>	
Tues 12-Jan	Economic efficiency & markets	TL: Ch. 2 (stop before section on externalities) KO: Ch. 2 and 4
Th 14-Jan		
Tues 19-Jan	Benefit-cost analysis and cost-effectiveness analysis	TL: Ch. 3 (Benefit-Cost Analysis...) KO: Ch. 3 Ch. 2-3 in: Pearce et al. (2006). Cost-Benefit Analysis and the Environment: Recent Developments. OECD Publishing.
Th 21-Jan		
Tues 26-Jan	Market Failures	KO: Ch. 5 Finish TL: Ch. 2
Th 28-Jan		
Tues 2-Feb	Economic instruments to correct market failures & the Coase Theorem	KO: Ch. 8 – Laura relies on this a lot in the second half (not Coase, but the instruments & their properties) – is slide 23 right? A* should be q0? And how does Coase column add up to +A as written?
Th 4-Feb		
Tues 9-Feb	<i>Resource Economics I:</i> Non-renewable resources & natural capital	TL: Ch. 6 (Depletable Resource Allocation) KO: Ch. 6 – Laura gets redundant here when discussing oil markets in climate/energy – discuss how to harmonize
Th 11-Feb		
Tues 16-Feb	<i>Resource Economics II:</i> Renewable & open-access resources	TL: Ch. 12 (Common-Pool Resources), KO: Ch.7 <i>Discussion:</i> Bourguet, D., Desquilbet, M., & Lemarié, S. (2005). Regulating insect resistance management: the case of non-Bt corn refuges in the US. Journal of Environmental Management, 76(3), 210–20.
Th 18-Feb		
Tues 23-Feb	Sustainability	TL: Ch. 5 & 20 (Dynamic Efficiency & Sustainable Development) KO: Ch. 11
Th 25-Feb		

Tues 1-Mar	Review	
Th 3-Mar	Midterm	
Tues 8-Mar	<i>Spring break</i>	
Th 10-Mar		
March 15-24	Section 1: Valuation (Increase difficulty – problem set with regression and computation of CS in rec demand?)	General readings covering material: TL Chapter 4; KO Chapter 3
	Background	TL 73-86 (also in KO 33-43)
	Contingent Valuation	Goodstein pp 145-149; Brown, Chapter 4
	Travel Cost	Parsons, Ch. 9, 269-274, 283-286, 292-296; TL: 87 & example 4.2 on p88; Goodstein, 149-151.
	Hedonics	Taylor, Section 1 and Section 6.1; TL p87 & 89, 90-91 (on GIS) & example 4.3
	Valuation in Action	US EPA, RIA for Clean Power Plan, pp ES-1 to ES-27. – MOVE TO NEXT SECTION NEXT YEAR
Mar 29 – Apr 7	Section II: Environmental Policy: Air, Energy & Climate	
Summary of Climate Science?	Climate Change Background	IPCC, 5 th Assessment Report, Summary for Policy Makers; TL Chapter 16
	US Climate Policy	Clean Air Act background understanding (specific pages in KO); Reading on finding of Carbon a Criteria Pollutant; Reading on Clean Power Plan
	Federal Policy Background	KO: Chapter 10 (give pages read on own – NAAQS, update with Carbon)
	US Energy & Climate Policy	TL Chapter 7; TL Chapter 17 – pick only pages you cover. Redo with Zack... Peak oil/renewable transition to me?
April 12 – 21	Section III: Water and Land Resources	
Flip classroom	Water Resources: Allocation	TL Chapter 9 – lame chapter; Hanemann, 2005, pages 70-79
Flip classroom	Water Resources: Quality	TL Chapter 18 – lame chapter.

	Land Use	TL Chapter 10 -??? Didn't cover, chapter OK?
Tues 5-May	Final exam: 1:00-4:00pm	