Overview:
This course is an applied course in environmental economics with an emphasis on energy markets and energy consuming technologies. The focus is on empirical studies of environmental regulation, measurement of damages from pollution, producer and consumer behavior. The goal is to provide students interested in these topics, the tools necessary to begin conducting their own research.

Office Hours and Contact Information:
Professor: Jonathan Hughes  
Office location: Economics 4B  
Office hours: Tuesdays and Thursdays from 10:30 am to 12:00 pm (or by appointment)  
Phone: (303) 735-0220  
Email: jonathan.e.hughes@colorado.edu  
Class web site: https://learn.colorado.edu/

Background Texts:
There is no required textbook for this course. Course readings can generally be downloaded from JSTOR, NBER, etc. or for other working papers, from the web sites listed in the course schedule. Please contact me if you have difficulty downloading the required readings. In addition to these readings, graduate texts in environmental economics, industrial organization and applied microeconometrics will provide useful background to the topics covered in the course. Excellent examples include:

Angrist and Pischke, “Mostly Harmless Econometrics.”
Cameron and Trivedi, “Microeconometrics: Methods and Applications.”
Baumol and Oates, “The Theory of Environmental Policy.”
Freeman, “The Measurement of Environmental and Resource Values.”
Tirole, “The Theory of Industrial Organization.”

Course Requirements and Grading:
Reading/class participation 15%  
Referee reports 15%  
Midterm exam 20%  
Final exam 20%  
Research paper/proposal 30%
Reading/Class Participation:
Please come to class each day ready to discuss the assigned reading. Please prepare a ½ page summary of each paper that discusses: the main research question; data used in the analysis; the empirical approach, structural versus reduced form, identification of the parameter(s) of interest, etcetera; and any major assumptions or limitations of the study. I will randomly select several of these summaries during the semester to evaluate as part of your class participation grade.

Referee Reports:
Each student is required to submit two original referee reports on unpublished empirical papers in environmental economics. I will select each paper from the NBER EEE or similar working paper series. The report should not exceed 4 pages. Each report should (briefly) summarize the main contribution of the paper, strengths and weaknesses and areas for improvement. Your goal is to critically evaluate the manuscript and provide feedback the author(s) could use to improve their work. Due dates are: February 23, 2016 and April 5, 2016.

Examinations:
There will be an in class mid-term exam on March 8, 2016 and a final exam on Sunday May 1, 2016 from 7:30 – 10:00 pm. If you have a conflict with the mid-term exam date, please see me during the first week of class to discuss alternate arrangements.

Research Paper/Proposal:
You have begun to transition from consumers of economics to producers of economics. An important part of this process is developing original research questions. Each student will complete a research paper or well-developed research proposal due on the last day of class, April 28, 2016. A one-page description of the project that identifies the data you will use and potential research questions should be turned in on February 16, 2016. The project should deal with an important empirical question in environmental economics. I am not necessarily looking for a finished paper. However, a successful project must: 1.) Pose an interesting and original research question. 2.) Identify and obtain data suitable for answering this question and 3.) Outline an empirical strategy that can plausibly answer the question of interest.

Late Assignments and Missed Examinations:
Reading summaries and other assignments are due before the start of class on the date due. No late assignments will be accepted except in the case of documented medical or family emergency. No make-up exams will be given. If you foresee a conflict, contact me as soon as possible in order to make alternate arrangements for you to complete the requirements of this course.

Campus Policies: I will adhere to all campus policies with respect to disabilities, religious observances, appropriate behavior, discrimination and harassment, and academic conduct. See http://www.colorado.edu/policies/
### Schedule of topics:

* Denote required readings for which you are to turn in an executive summary

#### I. Introduction

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<td>Reiss and Wolak, “Structural Econometric Modeling: Rationales and Examples from IO”</td>
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#### II. Environmental Regulation and Effects

**A. Transportation**

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### B. Electricity and Manufacturing


### III. Consumers

#### A. Transportation


B. Electricity and Energy Efficiency


C. Voluntary Measures/Information


IV. Estimating Damages
A. Air Pollution


B. Climate Change


V. Discussion of final projects