Objectives and Requirements

Res Ec 721 is an advanced graduate course in environmental and natural resource economics. The course is focused on environmental and energy economics and policy. We intend to provide the basic skills that are necessary to penetrate much of the current literature in resource and environmental economics.

There will be a series of in-class and take-home exams for each component of the course. In addition to your performance on the exams, your grade will be determined by your participation in class. At a minimum we expect each of you to attend every class prepared to discuss the assigned readings.

Texts

There are no required texts for this course, but one that you may want to purchase for your library is:


In addition, we recommend that you familiarize yourselves with an undergraduate text like Tom Tietenberg's and Lynne Lewis’s *Environmental and Natural Resource Economics* (10th edition, 2014). This text provides intuitive and graphical expositions of topics that we will explore more rigorously. A more advanced undergraduate/beginning graduate text is Charles Kolstad’s *Environmental Economics* (2nd edition, 2010). At the other end of the difficulty spectrum are Barry Field’s texts, *Environmental Economics* and *Natural Resource Economics*. These texts are used in our introductory undergraduate classes in this field.

You should familiarize yourself with the *Review of Environmental Economics and Policy*. This is a relatively new journal (begun in 2007) that publishes accessible reviews of various topics in environmental economics, so it is a good source for gaining a broad understanding of research in this field.
Course Outline and Reading List (Subject to Change)
Readings marked with a (*) in the list below will be stressed and should be read prior to class. The reading list is also meant to serve as a partial bibliography should you wish to delve deeper into a particular topic. If you wish to go even further, please feel free to ask us about additional readings.

ResEc 721: First Module
Professor Crago

1. Optimal environmental taxes in general equilibrium


2. Fuel market externalities and regulation


Optimal gasoline tax


Low Carbon Fuel Standard


Biofuels

3. Energy Efficiency

Investment under uncertainty: application to investments in energy efficiency

WRITTEN Exam – Week of October 13th. Time/Date TBA

ResEc 721: Second Module
Professor Stranlund

4. Dynamic Optimization
Basics of Optimal Control and Dynamic Programming
Hanley, Shogren and White, Sections 7.1 - 7.3.

5. The Economic Theory of Environmental Regulation
The Fundamental Economics of Designing Environmental Policies
Hanley, Shogren and White, Chapters 3, 4, and 5.


**Market Imperfections and Price-Based Environmental Policies**


**Dynamic Regulation**


**Regulation under Abatement-Cost Uncertainty**


**Regulating Non-Point Source Pollution**


Enforcement
ACADEMIC HONESTY

All members of the University community must participate in the development of a climate conducive to academic honesty. While the faculty, because of their unique role in the educational process, have the responsibility for defining, encouraging, fostering, and upholding the ethic of academic honesty, students have the responsibility of conforming in all respects to that ethic. Intellectual honesty requires that students demonstrate their own learning during examinations and other academic exercises, and that other sources of information or knowledge be appropriately credited. Scholarship depends upon the reliability of information and reference in the work of others. No form of cheating, plagiarism, fabrication, or facilitating of dishonesty will be condoned in the University community.

Academic dishonesty includes but is not limited to:

**Cheating** - intentional use, and/or attempted use of trickery, artifice, deception, breach of confidence, fraud and/or misrepresentation of one’s academic work.

**Fabrication** - intentional and unauthorized falsification and/or invention of any information or citation in any academic exercise.

**Plagiarism** - knowingly representing the words or ideas of another as one’s own work in any academic exercise. This includes submitting without citation, in whole or in part, prewritten term papers of another or the research of another, including but not limited to commercial vendors who sell or distribute such materials.

**Facilitating dishonesty** - knowingly helping or attempting to help another commit an act of academic dishonesty, including substituting for another in an examination, or allowing others to represent as their own one’s papers, reports, or academic works.

Sanctions may be imposed on any student who has committed an act of academic dishonesty. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible.

Formal definitions of academic dishonesty, examples of various forms of dishonesty, and the procedures which faculty must follow to penalize dishonesty are contained in *The Code of Student Conduct*, a publication of the Dean of Student Affairs. A student accused by an instructor or another student of having committed a breach of the academic honesty regulations has the right to appeal before any penalty can be imposed. Appeals must be filed within ten days of notification by the instructor that s/he suspects dishonesty. Information on the appeals process is also contained in *The Code of Student Conduct*, or can be obtained from the Ombuds Office, where appeals are filed.