This course is part of a two-semester sequence in environmental and natural resource economics, requiring graduate microeconomics, constrained optimization, and econometrics. This semester will focus on the links between the economy, policy, the environment, and use of natural resources. Specific topics include: the theory of environmental externalities; the role of uncertainty; pollution control through taxes, quantity restrictions, and marketable permits; effects of environmental policy on poverty, growth, and trade; and valuation of non-marketed environmental amenities through contingent valuation, travel cost method, hedonic price indices, and health effects. This course will also cover other topics of student interest such as problems of air pollution, global warming, water pollution, solid waste, or toxic waste.

Each student is required to write and present a paper, for 50% of the grade. The goal is not just to summarize existing literature, but to perform some new derivation, computer work, or estimation. It can be as simple as using another researcher’s data to run regressions with new functional forms, but you will learn what constitutes new research. Past papers always improved substantially with successive drafts. You can give me any number of drafts, and I will promise to read and provide comments on each within a week. At a minimum, you must provide:

<table>
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<tr>
<th>Assignment</th>
<th>Week #</th>
<th>Date</th>
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<tr>
<td>proposal (about 5 pages)</td>
<td>7</td>
<td>Mon., Feb.26</td>
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<td>lit.rev/model (10 pages)</td>
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<td>Wed., Mar.21</td>
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<td>full draft (about 15 pages)</td>
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<td>Mon., Apr.9</td>
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<td>final paper (20 pages)</td>
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I will also make assignments periodically, such as to replicate some math or to prepare a position for debate. You will also be asked to "present" a published paper. The remaining 50% of the grade will be determined by a midterm exam, given during class on April 18. Office hours are by appointment, and:

MW 5:30 - 6:30pm
and Friday 2-3pm
BRB 2.102D, Economics
Office phone: (512) 475-8519
Cell phone: (512) 750-6012
dfullert@eco.utexas.edu

In the calendar on the next page, I suggest a structure that allows us to finish the entire course by April 27, a week before the last week of classes. We can vote to see if you all really prefer a more standard structure, but my suggested structure has three components: (1) switch from a final exam during exam week to a "midterm" exam on April 18 (two weeks before the end of class). This switch can work because we finish all the standard course materials and readings by that time, in order to use the last 4 classes for 8 presentations. (2) Then, instead of using the last two weeks for presentations, students often prefer to have all 8 or so presentations on one Saturday "conference", which I suggest for April 21. It is a long day, but substitutes for 4 classes. For this to work, you all must save that Saturday. (3) Though not essential for the plan to finish a week early, I suggest two extra classes early in the term (e.g. Fridays Jan.26 and Feb.2 at 11am-12:15), in exchange for dropping two classes later (e.g. week 11, April 2&4). The twofold logic is (a) to cover more material earlier, which helps you see more of the topics early enough to choose one topic for your research paper and get underway earlier, and (b) to cancel class in the week before your full draft is due, to concentrate on doing your research that week.

It's fine to finish early, but please recognize that it means starting early! If you concentrate on this course more than on your other courses for the first few weeks, then you can concentrate on your other courses during the last week when other papers are due, and during the final exam week.
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Initial required articles will be provided in a packet from Abel’s and from the Stavins book (EESR). Other readings listed below cover a great variety of topics. The class is small, and interests vary, so please think about which topics you want to cover in depth before we do a second packet of readings from Abel’s. Other readings are available in two paperback books (“recommended” for purchase):


Some of the classics in environmental economics are in the anthology by Stavins (EESR, 2005). You may want to skim these. Also, the state of the art through the 1980s is in the text by Baumol and Oates (B&O, 1988). The following list of additional readings emphasizes papers that are recent, short, and published or forthcoming in major journals. Unfortunately, many interesting topics and papers cannot be covered in one semester. The papers marked with an asterisk (*) are required reading (from the packet or EESR). Even if some of these articles are not explicitly covered in class, they are designed to complement the articles discussed in class and to improve the discussion. Other required papers will be added when we decide upon additional topics for the second packet.

1. Introduction


2. Public Goods and Externalities


### 3. Comparing Alternative Policies


### 4. Uncertainty

Baumol, William J. and Wallace E. Oates, 1988, Chapter 5 (and then 10-14).


5. Policy Design


6. Monitoring, Inspections, Warnings, Enforcement, Compliance


7. Cost-Benefit Analysis and Cost-Effectiveness Analysis


8. The Distribution of Costs and Benefits

Baumol and Oates, 1988, Chapter 15.


9. Poverty, Development, and Environment


10. Second Best Considerations


11. Imperfect Monitoring


12. Pollution Havens I: International and Interjurisdictional Competition

Baumol and Oates, 1988, Chapter 16 & 17.


13. Pollution Havens II: Firm Location and Environmental Justice


14. Pollution Havens III: International Trade and Environment


15. Pollution Havens IV: Growth and Development


16. Pollution Havens V: The Cost of Environmental Protection

17. The Measurement of Benefits I: Overview


18. The Measurement of Benefits II: Hedonic Price Indices


20. The Measurement of Benefits IV: Contingent Valuation


22. The Generation and Control of Waste I: Overview

23. The Generation and Control of Waste II: Air Pollution


24. The Generation and Control of Waste III: Water Pollution


26. The Generation and Control of Waste V: Solid Waste


27. The Generation and Control of Waste VI: Transportation Congestion and Emissions


29. Climate Change Policy


30. Dice, Rice, Price, and Entice


31. Permit Trading Implementation


32. Market Structure

Baumol and Oates, 1988, Chapters 6-8.


33. International Cooperation

Baumol and Oates, 1988, Chapter 16.


### 34. Critical Habitat and Endangered Species


### 35. Wetlands and Ecosystems


### 36. Liability


### 37. Not In My Back Yard (NIMBY)


38. Double Dividend Hypothesis


39. Endogenous Growth


40. Environmental Accounting


41. Superfund Toxic Waste Clean-Up Program


42. Political Economy


43. Indoor Environmental Quality


