Environmental Economics

Course Objective: This course will introduce students to the methods economists use to analyze issues related to the environment. We will discuss the positive and normative aspects of environmental economics, techniques that are used to value the environment, and approaches—such as regulation and incentive-based programs—that are used to control pollution. This course is taught with the expectation that students have completed Economics 201.

Office Hours: Office hours will be held in Vollum 227 on Mondays and Wednesdays from 3:15-4:15 and on Thursdays from 4:00-5:00. Students who are unable to come during these times are encouraged to make an appointment.

Text and Required Readings: The principal text for this course is *Environmental Economics* (2nd edition) by Charles D. Kolstad. Students are also responsible for the required readings and for additional readings that will occasionally be announced in class. Students are expected to contribute to class discussions by finding examples of current environmental issues in the business, financial, and general press.

Evaluation: Evaluation will be based on three homework assignments, a midterm and comprehensive final examination, participation in a group project, and class participation. Every student should be prepared to contribute meaningfully to every class session.

Collaboration: All submitted work is expected to reflect your effort on the assignment. You are encouraged to work with classmates, tutors, and the instructor on problem sets. However, when you write the assignment, it must be your work and should be written in words that reflect your understanding of the course material. The Honor Principle and the ethics of proper academic conduct must guide your conduct in this class in all respects. The following section from the Guidebook to Reed College summarizes my expectations:

> Reed College is a community of scholars. The fundamental ethical principle governing scholarship is that one should never claim or represent as one’s own work that which is not one’s own. The principle of proper academic conduct requires that all work submitted for academic purposes—including, but not limited to examinations, laboratory reports, essays, term papers, homework exercises, translations, and creative work—be the work of the person who submits it, and that, in the case of work based upon experiment and observation, the experimental results and observations be reported faithfully. The principle thus requires that no one claim authorship to the work of another and that no one falsify or misrepresent empirical data. This principle should be clear to every scholar, although determining its application in particular circumstances will require careful thought and guidance.

1 For more information see: [http://www.reed.edu/academic/gbook/comm_pol/acad_conduct.html](http://www.reed.edu/academic/gbook/comm_pol/acad_conduct.html)
Citations: Citations should be used when appropriate and should conform to the guidelines in the Citation Guide for Papers and Theses in Economics, which is available on the class Moodle site.

Materials on Reserve: The following texts are on 2-hour reserve; other required readings are available electronically. Readings marked with a * are optional.


Outline and Reading List

**I. Introduction**

*August 31st*

Kolstad, Chapter 1 (to page 15).


*September 2nd*: Cost of Environmental Protection

Kolstad, Chapter 1 (page 15 to end).


*September 4th*: Positive and Normative Analysis

Kolstad Chapter 2.


**II. Principles of Environmental and Resource Economics**

**A. Welfare Economics**

*September 9\(^{th}\) and 11\(^{th}\)*

Kolstad, Chapter 3.


**B. Markets and Market Failure**

*September 14\(^{th}\), 16\(^{th}\), 18\(^{th}\) and 21\(^{st}\)*

Kolstad, Chapters 4 and 5.


C. Benefit Cost Analysis

*September 23rd and 25th*

Kolstad, Chapter 6.


III. Economic Valuation

A. Introduction

September 28th


September 30th

Kolstad, Chapter 7.


B. Hedonic Price Method

October 2nd and 5th

Kolstad, Chapter 8.


C. Defensive Expenditures and the Travel Cost Method

October 7th

Kolstad, Chapter 9 (to page 187).


October 9th

Kolstad, Chapter 9 (to end).


D. Contingent Valuation

October 12th

Kolstad, Chapter 10 (to page 209).


October 14th

Kolstad, Chapter 10 (page 209 to end)


October 16th: Midterm Exam

IV. Controlling Pollution

A. Regulation

October 26th and 28th

Kolstad, Chapter 11.


B. Pigouvian Fees

October 30th, November 2nd and 4th

Kolstad, Chapter 12


**C. Property Rights and Marketable Permits**

*November 6th*

Kolstad, Chapter 13 (to page 272)


*November 9th and 11th*

Kolstad, Chapter 13 (page 272 to end)


D. Regulation Over Space and Time

November 13<sup>th</sup>

Kolstad, Chapter 14

E. Regulations Under Uncertainty

November 16<sup>th</sup>

Kolstad, Chapter 15

F. Audits, Enforcement, and Moral Hazard; Voluntary Actions and Agreements

November 18<sup>th</sup>, 20<sup>th</sup>, 23<sup>rd</sup>, and 25<sup>th</sup>

Kolstad, Chapters 16 and 17


V. Advanced Topics

A. Risk and Uncertainty

November 30<sup>th</sup>

Kolstad, Chapter 18
B. International/Interregional Competition

December 2nd and 4th

Kolstad, Chapter 19


C. Environment, Growth, and Development

December 7th and 9th

Kolstad, Chapter 20.


Assignment List, Due Dates, and Exam Schedule

The following is a list of assignments and due dates. All assignments are due in class on the date listed below. In fairness to other students, late assignments will be penalized a full grade for each day or partial day past the due date. Assignments handed in more than three days after the due date will not be accepted.

Examinations:

The midterm exam is on Friday, October 16th. The comprehensive final exam will be given during final exam week. The exact date and time of the final will be confirmed in the second part of the semester by the Registrar’s Office.

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<tr>
<th>Problem Sets</th>
<th>Distributed</th>
<th>Due</th>
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<tbody>
<tr>
<td>Problem Set #1</td>
<td>September 18th</td>
<td>September 25th</td>
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<td>Problem Set #2</td>
<td>October 2nd</td>
<td>October 9th</td>
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<td>Problem Set #3</td>
<td>November 6th</td>
<td>November 13th</td>
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<tr>
<td>Problem Set #4</td>
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Problem Timeline

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<tr>
<th>Task</th>
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<tr>
<td>Introduction to Zotero</td>
<td>Friday, September 11th 3:10-4pm, Library 17</td>
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<tr>
<td>Introduction to Excel</td>
<td>Monday, September 14th or Thursday, September 17th</td>
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<tr>
<td>Introduction to ArcGIS</td>
<td>Friday, September 18th 3:10-4pm, Vollum 126</td>
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<td>Lindsey Maser, City of Portland BPS and Steve Yeadon, Assistant Director of Facilities Operations</td>
<td>Friday, September 25th from 3:10-4pm</td>
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<td>Project preference due</td>
<td>Friday, September 11th</td>
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<tr>
<td>Group tasks, timeline and update</td>
<td>Friday, October 2nd</td>
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<td>Update</td>
<td>Friday, November 6th</td>
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<td>Section rough drafts due</td>
<td>Friday, November 20th</td>
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<td>Final project sections due</td>
<td>Start of the final exam</td>
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