

Your main support for this course should be your lecture notes taken in class. Next come the reader and designated readings from David's web notes. As you will see below, I follow pretty much the outline for the first 4 lectures but after that the course departs notably from the web lectures – so beware! This reading list is normally updated after each lecture.

LECTURE	TOPICS	READINGS
1: 1/18	Introduction	Web notes: Ch. 1 Reader: Tietenberg Ch. 2 (p. 16-31)
2: 1/20	When is a market socially optimal? Review of micro-economic concepts	Web notes: Ch. 2+3 Reader: Tietenberg Ch. 2 (p. 16-31)
3: 1/25	Production and consumption externalities: market failure and policy instruments	Web notes: Ch. 4 Reader: Carlson, Zilberman and Miranowski Ch. 6
4: 1/27	Policy instruments: standards, taxes, subsidies and tradeable permits	Web notes: Ch. 4, Ch. 6, p. 14-16 Reader: Carlson, Zilberman and Miranowski Ch. 6
5: 2/1	Policy instrument choice: the role of abatement cost heterogeneity. Second-best policy.	Web notes: Ch. 5, p. 5-6, 9-11, Ch. 6, p. 12-14 Reader: Carlson, Zilberman and Miranowski Ch. 6
6: 2/3	Policy instrument choice: the role of uncertainty.	Web notes: Ch. 6, p. 10-12 Reader: Carlson, Zilberman and Miranowski Ch. 6, p. 236-237
7: 2/8	Waste management: deposit-refund systems	Reader: Tietenberg, p. 191-205
8: 2/10	The Coase theorem and liability rules, optimal clean-up and restoration	Web notes: Ch. 6, p. 1-9 Reader: Carlson, Zilberman and Miranowski Ch. 6, p. 228-234
9: 2/15	Stationary source air pollution control: emission permits in practice	Reader: Tietenberg, Ch. 16 (p. 365-387), p. 398-399
10: 2/17	Stationary source air pollution control: emission charges in practice. Criteria for policy instrument choice	Reader: Tietenberg, Ch. 16 (p. 365-387) Summary handout on CAC versus economic incentives

11: 2/22	Technological change and pollution control	Web notes: Ch. 8
12: 2/24	Mobile source air pollution: Bay Bridge congestion, gas guzzlers, and whether the US should increase its gas taxes	Reader: Tietenberg, Ch. 18 (p. 417-440)
13: 3/1	Public goods	Reader: Rosen, p. 62-76; Seneca and Tanssig Ch. 4; Tietenberg, p. 75 Web notes: Ch. 7
14: 3/3	Public goods	Reader: Rosen, p. 62-76; Seneca and Tanssig Ch. 4; Tietenberg, p. 75 Web notes: Ch. 7
15: 3/8	Economics of biodiversity and endangered species	Lecture notes and excerpts from Web notes Ch. 20 (Environmental Services – not compulsory) (on the website under Detailed Texts)
16: 3/10	MIDTERM	
17: 3/15	Valuation of environmental benefits	Reader: Freeman, Mitchell and Carson; Nicholson, p. 683-686; Rosen, p. 230-233, 236-238, 251-254; Tietenberg, p. 51 Web notes: Ch. 9
18: 3/17	Valuation of environmental benefits	Reader: Freeman, Mitchell and Carson; Nicholson, p. 683-686; Rosen, p. 230-233, 236-238, 251-254; Tietenberg, p. 51 Web notes: Ch. 9
3/22; 3/24	SPRING BREAK	
19: 3/29	Water allocation policies: water rights history, transition from queuing to water markets, the Water Bank	Web notes: Ch. 16 Reader: “California Water Transfers: The System and the 1991 Drought Water Bank”
20: 3/31	The economics of irrigation and farm technology choice	Web notes: Ch. 17
21: 4/5	The economics of irrigation and farm technology choice	Web notes: Ch. 17
22: 4/7	Water quality policies: agricultural non-point source pollution /Animal waste	Web notes: Ch. 17a /Web notes: Ch. 5, p. 1-3, Ch.21

23: 4/12	Pesticide economics	Reader: Carlson, Zilberman and Miranowski, Ch. 7; Zilberman et al. Web notes: Ch. 13, p. 10-16, Ch. 18
24: 4/14	Pesticide economics	Reader: Carlson, Zilberman and Miranowski, Ch. 7; Zilberman et al. Web notes: Ch. 13, p. 10-16, Ch. 18
25: 4/19	Biotechnology	Reader: Quaim and Zilberman Web notes: Chapter 19
26: 4/21	Environment and development: environmental Kuznets curves	Lecture notes
27: 4/26	Global pollutants and international environmental agreements: stratospheric ozone depletion	Lecture notes
28: 4/28	Global pollutants and international environmental agreements: global climate change	Lecture notes
29: 5/3	Global pollutants and international environmental agreements: global climate change	Lecture notes
30: 5/5	Environment and development: defining and measuring sustainable development – green accounting	Lecture notes Reader: Tietenberg, Ch. 5 (p. 93-99) Reader: Tietenberg, Ch. 21 (p. 501-521)
31: 5/10	REVIEW	
5/17	FINAL	8-11 a.m. in Bechtel Auditorium

If you're interested in pursuing studies in environmental and resource economics, here are some bibliographical references to help you:

Tom Tietenberg (2003), **Environmental and Natural Resource Economics**, Sixth Edition, Addison-Wesley. This is the latest edition of the classical undergraduate introductory text on the subject. This edition contains more examples of environmental policy from outside of the US than earlier editions.

David W. Pearce and R. Kerry Turner (1990), **Economics of Natural Resources and the Environment**, The Johns Hopkins University Press. Another classical undergraduate introductory text. David Pearce is the author (with Ed Barbier and Anil Markandya) of the classic "Blueprint for a Green Economy", published by Earthscan.

William Baumol and Wallace Oates (1988), **The Theory of Environmental Policy**, Second Edition, Cambridge University Press. Another classical text, for graduate courses: it presents the theory in-depth with fewer examples and graphs. It's maybe getting a little dated in the sense that it does not cover recent developments in the theory of information and incentives when there is asymmetric information between the regulator and polluters.

Nick Hanley, J. Shogren and Ben White (1997), **Environmental Economics in Theory and Practice**, MacMillan. A relatively recent textbook with complete coverage situated on a level that makes it suitable to use in both undergraduate and graduate classes. The authors have also made a book called Introduction to Environmental Economics (2001), adapted for undergraduate courses.

Charles Kolstad (2000), **Environmental Economics**, Oxford University Press. A recent textbook which is excellent for its coverage of recent developments in the field, e.g. asymmetric information. Probably the most up-to-date graduate text.

Thomas Sterner (2002), **Policy Instruments for Environmental and Natural Resource Management**, Resources for the Future Press. A great new text which puts together the theory of environmental and resource economics with many applications and policy analyses world-wide - especially good for its coverage of policy in developing countries. Very motivating.