

# Macquarie University

## Division of Economic and Financial Studies

### Econ 359 Environmental Economics 2004

**Lecturer-in-charge:** Professor Peter Abelson (x8512).  
**Lecture time / room:** Wednesday 1.05 p.m.– 2.55 p.m. Room E7B 100  
**Tutorials time / room** Wednesday 4.05, Room W5A 105, 5.05 Room C5A 313

#### Introduction to the course

Welcome to Environmental Economics (ECON 359). ECON 359 describes the mainstream economic approach to managing the environment. I hope that you find this a stimulating and useful course.

The course is based on Tietenberg, *Environmental and Natural Resource Economics* (6th ed.). The course starts with a brief discussion of the nature and causes of environmental problems and the application of economic principles to the environment. We then discuss the principles of efficient resource use and efficient control of wastes or pollution. The second half of the course discusses a wide range of environmental problems. Case studies are drawn from Australian and international experience.

The course should interest students concerned about some fundamental issues facing the world and those with an interest in managing practical environmental problems.

#### Course Reading

Students should fully understand the course text by Tietenberg. References are to the sixth edition (2003). For most purposes, the fifth edition (2000) is similar and as useful. *Environmental Economics and Policy* by T.Tietenberg is very similar to the textbook. There are many other excellent books on environmental economics (see references).

#### Course Outline

There will be 12 two-hour lecture sessions starting on Wednesday 1 July and a final revision session. The numbers in brackets by the lecture topics are the relevant chapters in the Tietenberg text (6<sup>th</sup> ed.).

There will be five tutorials plus a revision session at the end of the semester, which will be tutorial mode.

Lecture overheads and some key readings (but not the text) will be provided in the Economics Information and Resource Centre (ERIC). However, copyright laws forbid placing public copying of more than one chapter of a book. Tutorial subjects will be placed in ERIC one week in advance. The essay assignment will also be available in ERIC.

Student Resource Centre  
Division of Economic & Financial Studies  
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## Course Text

T.Tietenberg, 2003, *Environmental and Natural Resource Economics*, 6<sup>th</sup> edition, Addison Wesley, New York.

## Other Main References

- (A et al) Aplin G. et al., *Global Environmental Crises, An Australian Perspective*, 2<sup>nd</sup> ed. Oxford University Press, Oxford.
- (CT) Callan, S.J and J.M.Thomas, 2004, *Environmental Economics and Management*, 3<sup>rd</sup> edition, Thomson Learning, Ohio.
- (HSW) Hanley, N., Shogren, J.F., and B.White, 2001, *Introduction to Environmental Economics*, Oxford University Press, Oxford.
- (P et al.) Perman, R., Ma, Y., McGilvray. J., and M.Common, 2003, *Natural Resource and Environmental Economics*, 3<sup>rd</sup> edition, Addison Wesley, New York.
- (S ed.) Sankar, U., (ed), *Environmental Economics*, Oxford University Press, Oxford.

Week	Lecture / Tietenberg reference (6 <sup>th</sup> ed.)	Other main references
1	Nature of environmental issues (1) Social objectives and the environment (2)	
2	Causes of environmental problems (4) Analytical tools for environmental planning (3)	CT (3, 6-9) HSW (3-5) P et al (11-12) S ed. (2, 3, 6, 9).
3	Sustainable development (5) Population and the environment (6)	A et al (2) HSW (6) P. et al (2-4) S. ed. (10).
4	Efficient and optimal resource use: overview (7,14 ) Overview non-renewable and renewable resources (7,14)	P et al (14-15, S. ed. (4,5).
5	Pollution control targets (15) Pollution control instruments (15, 16)	CT (4,5) P et al (6,7) S. ed. (8).
6	Energy: efficient resource use (8) Air quality: Controlling pollution from stationary sources (16)	CT (10,12), HSW (14)
7	Transport and the environment Air quality: Controlling mobile sources of pollution (18)	CT (11) HSW (9)
8	Water: efficient use of water resources (10) Water: pollution (19)	A et al (4) CT (14-16), HSW (11)
9	Agriculture and the environment (11) Climate change (17)	A et al (3 & 5) HSW (12) CT (13) S. ed. (13).
10	Solid waste management and recycling (13) Management hazardous waste and toxic substances (20)	CT (17-19)
11	Fisheries (13) Forests: tropical and temperate (12) and biodiversity	P et al. (18) HSW (10 & 13)
12	Decision making: justice and uncertainty (21) Sustainability and development (22, 23)	B (2,3) P et al (9, 13, 19) S. ed.(11, 12)
13	Revision session	

## Other Readings

Australian Bureau of Statistics, *Australia and the Environment, National State of the Environment Report*, latest publication, ABS 4601.0.

Kneese, A. 1984, *Measuring the Benefits of Clean Air and Water*, Resources for the Future, Washington.

Imber, D., Stevenson, G. and L. Wilks, 1991, *A Contingent Valuation Survey of the Kakadu Conservation Zone*, Resource Assessment Commission, Research Paper No.3.

Resource Assessment Commission, 1991, *Commentaries on the Resource Assessment Commission's Contingent Valuation Survey of the Kakadu Conservation Zone*.

UK Department for Transport, Local Government and the Regions, 2002, *Economic Valuation with Stated Preference Techniques*, written by Pearce, Ozdemiroglu et al.

#### **Natural resource economics**

Abelson, P.W., 1989, 'The Sad Truth about Real Commodity Prices', *Economic Papers*, 8(3), 92-98.

Meadows H. et al., 1972, *Limits to Growth*, Universe Books, New York.

World Resources Institute, annual, *World Resources*, Oxford University Press, Oxford.

#### **Economics of Pollution and Economic Instruments**

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Button, K., 1993, *Transport, the Environment and Economic Policy*, Edward Elgar, UK.

European Commission, 2001, *Study on the Economic and Environmental Implications of the Use of Environmental Taxes and Charges in the European Union and its Member States*, [www.europa.eu.int](http://www.europa.eu.int)

Grubb, M., Brack, D. & Vrolijk, C., 1999, '*Kyoto protocol - a guide and assessment*', Earthscan.

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