

## **Foundations in Ecological Economics 2010-11**

Course co-ordinator: Dr Salman Hussain

### **Course Aims**

The aim of this course is to provide a theoretical grounding in economics from first principles, therein exploring the fundamental principles of efficiency in the distribution of resources in society. Virtually all decision-making in the socio-environmental domain is affected by these principles. The course covers not only conventional (neo-classical) economics but also criticisms of this dominant paradigm. In order to be able to criticise, it is first important to understand: this course provides a conceptual understanding of economics and uses case studies to discuss applications in practice. No prior knowledge of economics is assumed.

### **Course outline**

#### **topic 1**

##### **ECOLOGICAL ECONOMICS: PERSPECTIVE SETTING**

- definitions
- conceptual frameworks: scale; efficiency; equity; sustainable development
- EE versus conventional economics
- History of EE thought

#### **topic 2**

##### **PRINCIPLES IN ECONOMICS: RATIONAL BEHAVIOUR AND WELFARE ECONOMICS**

- theories of consumer behaviour
- indifference curve analysis
- Welfare Economics: link sustainability
- Rational Actor Theory - criticisms of conventional economic axioms of behaviour
- The 'de-growth' agenda

#### **topic 3**

##### **THE INDUSTRY/ECOLOGY INTERFACE**

- What are firm objectives?
- Corporate Social Responsibility
- Tools to assess corporate sustainability performance
- The economics of Eco-labelling
- Path-dependency and eco-innovations
- Modelling resource extraction under different industry structures

#### **topic 4**

##### **EXTERNALITIES AND INSTRUMENTS OF POLLUTION CONTROL**

- optimal choice under certainty
- optimal choice under uncertainty
- the polluter/regulator interface
- applications: Bubbles/RECLAIM/Kyoto
- application: the waste hierarchy and the landfill tax: Life Cycle Assessment and waste management

## Foundations in Ecological Economics

### Reading List

See WebCT for further readings

#### Perspective Setting:

Turner, Pearce & Bateman (1994) *Environmental Economics. An Elementary Introduction*. Harvester Wheatsheaf.

Pearce, D. and Turner, R.K. (1990) *Economics of Natural Resources and the Environment*. Harvester Wheatsheaf.

Faber, M, Manstetten, R. and Proops, J. (1996) *Ecological Economics: Concepts and Methods*. Edward Elgar.

Edwards-Jones, G., Davies, B. and Hussain, S.S. (2000) *Ecological Economics: An Introduction*. Blackwell Science.

Common, M. and Stagle, S. (2005) *Ecological Economics: An Introduction*. Cambridge University Press.

#### Political Science/Sustainability/Economic critique

Clayton, A.M.H. and Radcliffe, N.J. (1996) *Sustainability: a Systems Approach*. Earthscan.

Reid, D (1997) *Sustainable Development*. Earthscan.

Meadows, D.H., Meadows, D.L. and Randers, J. (1992) *Beyond the Limits*. Earthscan.

Daly, H.E. and Cobb, J. B. (1989) *For the Common Good*. Green Print.

#### Microeconomics and Welfare

Begg, Fischer and Dornbusch (1998) *Economics*. McGraw Hill

Varian R.H. (1993) *Intermediate Microeconomics*. Norton.

Cowell (1986) *Microeconomic Principles*. Oxford University Press.

Johansson (1991) *An Introduction to Modern Welfare Economics*. Cambridge University Press.

## **Foundations in Ecological Economics**

### **Assessments**

To be handed in with matriculation number plus essay title only.

### **Short Assessment**

A short critical review of *both* the following two papers:

Boulding, K. E. (1966), "The Economics of the Coming Spaceship Earth". In H. Jarrett (ed.), *Environmental Quality in a Growing Economy*, pp. 3-14. Baltimore, MD: Resources for the Future/Johns Hopkins University Press  
<http://www.ub.es/prometheus21/articulos/obsprometheus/BOULDING.pdf>

Daly, H.E. (1987) The economic growth debate: what some economists have learned but many have not," *Journal of Environmental Economics and Management*, 14, 4, (Dec, 1987), pp. 323-336

Word limit = 1000 words maximum total

Short assessment constitutes 15 per cent of final course mark.

Hand-in date: Monday 12 October 2010 by 9.30 a.m.

*Submission to WebCT and one hard copy to Frances Stratford, Education Office, SAC*

### **Long assessment**

35 per cent of final course mark in total.

Essay word limit = 2000

Title from the list below, or an alternative (to be agreed with Salman Hussain).

Hand-in date: Monday 13 December 2010 9.30 a.m.

Late submission will be penalised in accordance with University of Edinburgh regulations.

*Submission to WebCT and one hard copy to Frances Stratford, Education Office, SAC*

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### Sample Topics

1. Despite Garrett Harding's infamous 'Tragedy of the Commons', community management of a resource is a perfectly reasonable way of managing a resource.
2. "A Pareto-optimum is said to obtain when nothing more can be given to the hungry, the cold, the ragged and the homeless without incommoding the glutton, the miser, the usurer and the play-boy." [Peet, J. (1992) *Energy and the Ecological Economics of Sustainability*.]  
Discuss the criticisms made of Pareto-optimality as a fundamental underpinning to welfare theory.
3. "It took Britain half the resources of the planet to achieve its prosperity; how many planets will a country like India require?" Mahatma Gandhi  
Discuss the implications of the "Limits to Growth."
4. Discuss the efficiency, applicability and distributional impacts of congestion charging.
5. What relevance has Georgescu-Roegen's discussion of entropy had for ecological economics?
6. Discuss and critique the use of at least two tools that have been used to measure corporate sustainability performance.
7. What insights can economic theories on path dependence and eco-innovation provide for assessing policies to promote renewable energies?