

Degree	Type	Year	Semester
4313784 Interdisciplinary Studies in Environmental, Economic and Social Sustainability	OT	0	1

Contact

Name: Esteve Corbera Elizalde
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Teachers

Jeroen Van Den Bergh
 Gonzalo Gamboa Jimenez

Use of languages

Principal working language: english (eng)

Prerequisites

No aplica.

Objectives and Contextualisation

The course will introduce the field of ecological economics, paying attention to theoretical, methodological and empirical issues. Classic themes, important debates and recent research foci will receive attention. Valuation methods that cut across ecological and environmental economics will also be explored.

At the end of the course the student is expected to have a good understanding of:

1. The main themes, theories and methods addressed by ecological economics, including: the origins and principles of ecological economics, the idea of welfare and externalities, environmental and climate policy instruments, complex systems, environmental governance and conflicts, environmental and multi-criteria valuation, ecosystem services and the growth/degrowth debate;
2. The basic literature regarding ecological economics;
3. The essential differences between the way environmental problems and solutions are approached in environmental economics and ecological economics;
4. New methods that have been proposed by, and are applied within, ecological and environmental economics, such as environmental valuation methods, multi-scale integrated assessment, and social multi-criteria evaluation.

Skills

- Apply knowledge of environmental and ecological economics to the analysis and interpretation of environmental problem areas.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Communicate orally and in writing in English.
- Continue the learning process, to a large extent autonomously
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.

- Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
- Work in an international, multidisciplinary context.

Learning outcomes

1. Adopt a holistic perspective on the relationship between the economy and biophysical systems.
2. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
3. Communicate orally and in writing in English.
4. Continue the learning process, to a large extent autonomously
5. Differentiate between the approaches to environmental problems of environmental and ecological economics.
6. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
7. Know the role of the institutions in environmental governance.
8. Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
9. Work in an international, multidisciplinary context.

Content

The FEE course involves a series of 3-hour lectures organised in four main sub-modules under the responsibility of specific teachers. Some teachers may provide slides in advance through the CV but others may not. All readings need to be found by the student from internet and academic library sources (e.g. Scopus, Web of Knowledge) available on the UAB campus.

Sub-Module 1: Foundations, Policy & Innovation (JvdB)

History and principles of ecological economics (18th Oct)

Welfare, markets, externalities and public goods (20th Oct)

Environmental policy instruments (25th Oct)

Theories and methods of environmental valuation (27th Oct)

Economics of climate policy (3rd Nov)

The ecological footprint and spatial sustainability (8th Nov)

Behavioural economics and environmental policy (10th Nov)

The environment-versus-growth debate (15th Nov)

Essay & dissertation writing (17th Nov)

Sub-Module 2: Methods for integrated assessment (GG)

Multi-scale integrated assessment (22nd Nov)

Social multi-criteria evaluation - SMCE (24th Nov)

SMCE in practice (29th Nov)

Sub-Module 3: Institutional Aspects (EC)

Institutional economics and environmental governance (1st Dec)

Property and access theory, incl. case study (13th Dec)

(Mis)trust and cooperation: a game (15th Dec)

Sub-Module 4: Ecosystem Services Issues and Public Policies (EC)

Commodification of ecosystem services (20th Dec)

Payments for ecosystem services and environmental offsets, incl. case studies (22nd Dec)

REDD+, incl. case study (10th Jan)

Final exam (12th Jan)

Methodology

Lecturers will present a given topic and students will be expected to prepare for the class reading in advance the compulsory readings suggested in the bibliography. Lectures will involve time for questions and answers and for discussion; they might also involve role-play exercises and video-material. Presentation and essays preparation will involve group and individual work, respectively.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Lectures	54	2.16	6, 4
Presentation and discussion in class	8	0.32	3, 2, 6, 4, 9
Type: Autonomous			
Reading articles, books and studying for each of the given lectures and the final exam	100	4	7, 1, 5, 6, 4, 9
1 short and 2 longer essays, which involve reading the necessary literature to write the essays	60	2.4	8, 6, 4, 9

Evaluation

Students will be assessed on the basis of a written, closed-book exam; and three written essays:

The final exam will contribute towards 50% of the final mark. The exam will take place on the 12th January 2017, from 10 to 13:00 hours. It will cover aspects of each module of the course. Students will have limited space to answer each of these questions and will have to show that they have understood and mastered key concepts and ideas introduced during the course. The contributing teachers will evaluate the exam together.

A 500-words personal statement focused on the environment-versus-growth debate, and to be submitted in class and to Jeroen van den Bergh by 15th November 2016, contributing to 10% of the final mark.

A 1500-words multi-criteria exercise report, to be submitted by email to Gonzalo Gamboa by 15th December 2016, and contributing to 20% of the final mark:

Choose a socio-environmental conflict and develop a multi-criteria structure of the problem. This includes describing the problem/conflict and the actors involved, their objectives and positions in the conflict. Based on the priorities of the different actors, develop a set of alternatives to be compared, the attributes and the evaluation criteria. Also, choose a multicriteria method to compare the alternatives and justify your choice.

A 1500-words argumentative essay, to be submitted by email to Esteve Corbera by 12th January 2017, and contributing to 20% of the final mark:

Discuss critically the following statement: "REDD+ strategies and projects have potential to realise environmental justice at global, national and local scale".

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Final exam	50%	3	0.12	8, 3, 7, 1, 5, 2, 6, 4, 9
1 short and 2 longer essays	50%	0	0	8, 3, 7, 5, 2, 6, 4, 9

Bibliography

(*) Lectures obligatòries

1. History and principles of Ecological Economics

(*) van den Bergh, J.C.J.M. 2000. Ecological Economics: Themes, Approaches, and Differences with Environmental Economics. *Regional Environmental Change*, 3(1): 13-23.

Martinez-Alier, J., Roca Jusmet, J. 2000. *Economía Ecológica y Política Ambiental*. PNUMA y Fondo de Cultura Económica.

Ropke, I. 2005. Trends in the development of ecological economics from the late 1980s to the early 2000s. *Ecological Economics*, 55: 262- 290.

2. Welfare, markets, externalities and public goods

(*) Kahn, J.R. 2004. *The Economic Approach to Environmental and Natural Resources*. 3rd edition, Thomson/South-Western, Fort Worth, Mason, Ohio. ch. 2; & ch. 4, section "What is Value".

(*) Verhoef, E.T. 1999. Externalities. Chapter 13 in: J.C. J.M. van den Bergh (ed.). *Handbook of Environmental and Resource Economics*. Edward Elgar, Cheltenham, pp. 197-214.

3. Environmental policy instruments

(*) Russell, C.S., Powell, P.T. 1999. Practical considerations and comparison of instruments of environmental policy. Chapter 21 in: J.C.J.M. van den Bergh (ed.). *Handbook of Environmental and Resource Economics*. Edward Elgar, Cheltenham, pp. 307-328.

Stern, T. 2003. Policy Instruments for Environmental and Natural Resource Management. Resources for the Future (RFF Press), Washington D.C., USA, 504 pages.

4. Theories and methods of environmental valuation

(*) Perman et al., Valuing the Environment, Chapter 4 in Natural Resource and Environmental Economics

Hanley, N., Spash, C.L. 1993. Cost-Benefit Analysis and the Environment. Edward Elgar Publishers, Aldershot.

Martinez-Alier, J., Munda, J., O'Neill, J. 1998. Weak comparability of values as a foundation for ecological economics. Ecological Economics, 26: 277-286.

5. Economics of climate policy

(*) Executive summary of The Stern review: The Economics of Climate Change (2006).

http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/30_10_06_exec_sum.pdf

(*) McKibbin, W.J., Wilcoxen, P.J. 2002. The role of economics in climate change policy. Journal of Economic Perspectives 16(2): 107-129.

J.C.J.M. van den Bergh (2010). Safe climate policy is affordable - 12 reasons. Climatic Change 101(3): 339-385.

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6. The ecological footprint and spatial sustainability

(*) J.C.J.M. van den Bergh and F. Grazi (2014). Footprint Policy? Land Use as an Environmental Indicator. Journal of Industrial Ecology 18(1): 10-19.

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Grazi, F.; van den Bergh, J. and P. Rietveld .2007. Spatial welfare economics versus ecological footprint: Modeling agglomeration, externalities and trade. Environmental and Resource Economics 38: 135-153.

7. Behavioral economics and environmental policy

(*) E. Gsottbauer and J.C.J.M. van den Bergh (2011). Environmental policy theory given bounded rationality and other-regarding preferences. Environmental and Resource Economics 49(2): 263-304.

8. The environment-versus-growth debate

(*) Beckerman, W. 1992. Economic growth and the environment. World Development, 20(4): 481-496.

(*) Daly, H.E. 2005. Economics in a full world. Scientific American 293(3).

(*) van den Bergh, J., de Mooij, R. 2002. Growth and the environment in Europe: a guide to the debate. Empirica, 29: 79-91.

Kallis, G. 2011. In defence of degrowth. Ecological Economics, 70(5): 873-880.

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10. Multi-scale integrated assessment

(*) Giampietro, Mario; Mayumi, Kozo; Ramos-Martin J., 2009. Multi-scale integrated analysis of societal and ecosystem metabolism (MuSIASEM): Theoretical concepts and basic rationale. *Energy* 34(3), pp.: 313-322

Ramos-Martín J., Cañellas-Boltà S., Giampietro M., Gamboa G., 2009. Catalonia's energy metabolism: Using the MuSIASEM approach at different scales. *Energy Policy*, vol 37, (2009), p 4658-4671.

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Siciliano G., 2012. Urbanization strategies, rural development and land use changes in China: A multiple-level integrated assessment. *Land Use Policy* Vol 29(1): Pp 165-178

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11. Social multi-criteria evaluation - SMCE

(*) Munda G. Social multi-criteria evaluation: methodological foundations and operational consequences. *European Journal of Operational Research*;Vol 158(3): Pp 662-677.

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(*) Dente et al. (1998). A theoretical framework for case study analysis, in: Dente, Fareri & Ligteringen (eds.), *The waste and the backyard*, Dordrecht: Kluwer, pp. 197-223.

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13. Institutional economics and environmental governance

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(*) Hardin, G. 1968. The tragedy of the commons. *Science* 162: 1243-1248.

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17. Payments for Ecosystem Services and Environmental Offsets

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