

Fonaments d'Economia Ecològica

2015/2016

Codi: 42407

Crèdits: 9

Titulació	Tipus	Curs	Semestre
4313784 Estudis Interdisciplinaris en Sostenibilitat Ambiental, Econòmica i Social	OT	0	1

Professor de contacte

Nom: Esteve Corbera Elizalde

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Utilització de llengües

Llengua vehicular majoritària: anglès (eng)

Equip docent

Pere Riera Micaló

Jeroen Van Den Bergh

Prerequisites

Si l'estudiant no és anglo-parlant, es recomana IELTS (amb una nota mínima de 6.5) o TOEFL (puntuació min. 550 "paper based", 213 "computer based", i 79 "web-based"). Alternativament, és obligatori "Cambridge Certificate of Proficiency in English" o "Cambridge Certificate in Advanced English". Els estudiants han de tenir, preferiblement, un grau rellevant per entendre l'economia ecològica i ambiental, incloent per exemple economia, geografia, ecologia, o ciència política.

Objectius

El curs introduirà els estudiants a l'economia ecològica, i en particular als seus principis teòrics, metodològics i empírics. Es discutiran les temàtiques clàssiques i emergents de la disciplina.

Al final del curs, l'estudiant podrà disposar d'un bon coneixement sobre:

- Les principals qüestions empíriques, teories i metodologies tractades i/o emprades per l'economia ecològica;
- La literatura bàsica de la disciplina;
- Les diferències més importants d'aproximació als problemes ambientals segons l'economia ambiental i ecològica;
- Nous mètodes que s'han proposat i s'estan emprant per l'economia ecològica.

Competències

- Aplicar els coneixements d'economia ambiental i ecològica a l'anàlisi i a la interpretació de problemàtiques ambientals.
- Buscar informació en la literatura científica fent servir els canals apropiats i integrar aquesta informació per plantejar projectes de recerca en ciències ambientals.
- Comunicar oralment i per escrit en anglès
- Que els estudiants sàpiguen comunicar les seves conclusions, així com els coneixements i les raons últimes que les fonamenten, a públics especialitzats i no especialitzats d'una manera clara i sense ambigüitats

- Que els estudiants siguin capaços d'integrar coneixements i enfrontar-se a la complexitat de formular judicis a partir d'una informació que, tot i ser incompleta o limitada, inclogui reflexions sobre les responsabilitats socials i ètiques vinculades a l'aplicació dels seus coneixements i judicis
- Que els estudiants tinguin les habilitats d'aprenentatge que els permetin continuar estudiant, en gran manera, amb treball autònom a autodirigit
- Treballar en un context internacional i multidisciplinari

Resultats d'aprenentatge

1. Buscar informació en la literatura científica fent servir els canals apropiats i integrar aquesta informació per plantejar projectes de recerca en ciències ambientals.
2. Comunicar oralment i per escrit en anglès
3. Conèixer el paper de les institucions en la governança ambiental.
4. Demostrar una visió integrada de la relació entre l'economia i els sistemes biofísics.
5. Diferenciar l'acostament als problemes ambientals per part de l'economia ambiental i ecològica.
6. Que els estudiants sàpiguin comunicar les seves conclusions, així com els coneixements i les raons últimes que les fonamenten, a públics especialitzats i no especialitzats d'una manera clara i sense ambigüitats
7. Que els estudiants siguin capaços d'integrar coneixements i enfrontar-se a la complexitat de formular judicis a partir d'una informació que, tot i ser incompleta o limitada, inclogui reflexions sobre les responsabilitats socials i ètiques vinculades a l'aplicació dels seus coneixements i judicis
8. Que els estudiants tinguin les habilitats d'aprenentatge que els permetin continuar estudiant, en gran manera, amb treball autònom a autodirigit
9. Treballar en un context internacional i multidisciplinari

Continguts

El curs de FEE consisteix en classes de tres hores, que s'han organitzat en 4 sub-mòduls impartits per diferents professors. Algunes classes inclouran discussions utilitzant vídeos i jocs "de rol".

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

History and principles of ecological economics (20th Oct)
Welfare, markets, externalities and public goods (22nd Oct)
Environmental policy instruments (27th Oct)
Theories and methods of environmental valuation (29th Oct)
Economics of climate policy (3rd Nov)
The ecological footprint and spatial sustainability (5th Nov)
Behavioural economics and environmental policy (10th Nov)

Sub-Module 2: Valuation (PR)

Social cost-benefit and multi-criteria analysis (12th Nov)
Revealed preference valuation methods (17th Nov)
Stated preference valuation methods (19th Nov)

Essay writing and Reading session - with EC (24th Nov)

Sub-Module 3: Institutional Aspects (EC)

Institutional economics and environmental governance (26th Nov)
Property and access theory (1st Dec)
Institutional fit, interplay and scale (3rd Dec)

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

Commodification of ecosystem services (10th Dec)

Payments for ecosystem services and environmental offsets (11th Dec)

REDD+ (15th Dec)

The environment-versus-growth debate (17th Dec)

Metodologia

Els professors impartiran les classes i els estudiants hauran de preparar-les llegint prèviament almenys les lectures obligatòries. Les classes disposaran de temps per preguntes i per discussió col·lectiva; també es duran a terme exercicis participatius i es mostraran vídeos amb finalitat docent. Els estudiants hauran de dedicar temps en grup i temps individual per preparar una presentació a classe i els corresponents escrits d'avaluació, respectivament.

Activitats formatives

Títol	Hores	ECTS	Resultats d'aprenentatge
Tipus: Dirigides			
Classes magistrals	54	2,16	7, 8
Presentació i discussió a classe	8	0,32	2, 6, 7, 8, 9
Tipus: Autònomes			
Llegir articles, llibres i estudiar per cadascuna de les classes i l'examen final	100	4	3, 4, 5, 7, 8, 9
1 escrit curt i 2 escrits llargs, que impliquen llegir literatura per preparar-los	60	2,4	1, 7, 8, 9

Avaluació

Els estudiants seran avaluats segons un examen final, tres escrits i la seva participació a classe. En particular seran avaluats segons

- La seva presència a classe: almenys han de personar-se al 75-80% de les classes i les absències s'han de justificar.
- Un examen final, que contribuirà al 50% de la nota final. Tindrà lloc el dia 12 de gener de 2016, de 10 a 13 hores.
- Tres escrits:

Escrit 1) Un escrit de 1000 paraules (en anglès): "Use evidence from the peer-reviewed and grey literature to explain why carbon markets have either contributed or failed to reduce greenhouse gas emissions, and what could be done to improve their contribution to combatting climate change", que s'ha de presentar el 3 de desembre de 2015 i que representarà un 15% de la nota final;

Escrit 2) Un escrit de 1500 paraules (en anglès): "Discuss the following statement - REDD+ national strategies and projects have potential to realise environmental justice goals at global, national and local scale", que s'ha de presentar el 12 de gener de 2016, i que representarà un 25% de la nota final;

Escrit 3) Un escrit de 500 paraules expressant l'opinió personal sobre la relació entre creixement i conservació ambiental o sostenibilitat, que s'ha de presentar el mateix dia de la classe (17 de desembre de 2015) i que representarà un 10% de la nota final.

Activitats d'avaluació

Títol	Pes	Hores	ECTS	Resultats d'aprenentatge
Examen final	50%	3	0,12	1, 2, 6, 7, 8, 9
1 escrit curt i 2 escrits llargs	50%	0	0	1, 2, 7, 9

Bibliografia

Les lectures marcades amb (*) són obligatòries i s'han de llegir abans de classe, doncs s'utilitzaran per estructurar continguts i intercanviar impressions. Les altres lectures són voluntàries que s'haurien de llegir per saber-ne més i preparar bé l'examen final. L'estudiant ha de cercar tots els articles utilitzant la web i les principals bases de dades acadèmiques (e.g. Scopus, Web of Knowledge), disponibles al campus UAB.

1. History and principles of Ecological Economics (20th Oct)

(*) 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 (22nd Oct)

(*) 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 (27th Oct)

(*) 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.

Sterner, 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 (29th Oct)

(*) 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 (3rd Nov)

(*) 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., Wilcoxon, 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.

Responses to / debate on the Stern review (<http://www.hm-treasury.gov.uk/6520.htm>).

Tol, R.S.J. (2009). The economic effects of climate change. *Journal of Economic Perspectives* 23(2): 29-51.

Closing conference by invited speaker / spe
SESS YOUR SUB-MODULE.S, AND A MAXIMUM OF 10. MARK WITH A DOUBLE ** THOSE THAT YOU CO

6. The ecological footprint and spatial sustainability (5th Nov)

(*) 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.

with response by Wackernagel in the journal and on the web, and replies by van den Bergh/Grazi in same journal and journal *Ecological Indicators* (2015).

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 (10th Nov)

(*) 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. Social cost-benefit and multi-criteria analysis (12th Nov)

(*) Boardman, Anthony E., David H. Greenberg, Aidan R. Vining, and David L. Weimer (2011), *Cost-Benefit Analysis: Concepts and Practice*. Fourth Edition, Pearson (Prentice Hall), Upper Saddle River, NJ.

Arrow, Kenneth, Maureen Cropper, George Eads, Robert Hahn, Lester Lave, Roger Noll, Paul Portney, Milton Russell, Richard Schmalensee, Kerry Smith, and Robert Stavins (1996), Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation? *Science* 272(5259): 221-222.

Gramlich, Edward M. (1998), *A Guide to Benefit-Cost Analysis*, 2nd edition, Waveland Press.

U.S. Environmental Protection Agency (2000), *Guidelines for Preparing Economic Analyses*. Washington, D.C: U.S. Environmental Protection Agency.

9. Revealed preference valuation methods (17th Nov)

(*) Hotelling, Harold (1947) "The Economics of Public Recreation." In The Prewitt Report. Department of the Interior, Washington, D.C.

(*) Riera, Pere and Giovanni Signorello (eds.) (2012) *Good practice guidelines for the non-market valuation of forest goods and services*. University of Catania, Catania, Italy: DiGeSA.

Hanemann, W. Michael (2006) *The Economic Conception of Water*, In P. P. Roges, M. R. Llamas, and L. Martinez-Cortina (eds.) *Water Crisis: Myth or Reality?* Taylor & Francis plc., London.

10. Stated preference valuation methods (19th Nov)

(*) Arrow, Kenneth, Robert Solow, Paul R. Portney, Edward E. Leamer, Roy Radner, and Howard Schuman (1993), Report of the NOAA Panel on Contingent Valuation Federal Register, US Department of Commerce, 58(10): 4601-4614.

(*) Riera, Pere and Giovanni Signorello (eds.) (2012) Good practice guidelines for the non-market valuation of forest goods and services. University of Catania, Catania, Italy: DiGeSA.

Hanemann, W. Michael, Barbara Kanninen (1998) *The Statistical Analysis of Discrete-Response CV Data*. Working Paper 798, Department of Agriculture and Resource Economics and Policy, University of California at Berkeley

11. Essay writing & Reading class (24th Nov)

This lecture will be dedicated to learn about essay/scientific article writing and to start planning the contents of the first 1000-words essay of the course.

12. Institutional economics and environmental governance (26th Nov)

(*) Biermann, F. 2007. 'Earth system governance' as a crosscutting theme of global change research. *Global Environmental Change*, 17: 326-337.

(*) Aguilera-Klink, F. 1994. Some notes on the misuse of classic writings in economics on the subject of common property. *Ecological Economics*, 9(3): 221-228.

Dietz et al. 2003. The struggle to govern the commons. *Science*, 302(1907).

Feeny, D., Berkes, F., McCay, B.J. y J.M. Atcheson, 1990. The tragedy of the commons - 22 years later. *Human Ecology*. 18: 1-19.

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

Ostrom E, Schlager E, 1996. "The formation of property rights", in Rights to Nature. Ecological, Economic, Cultural and Political Principles of Institutions for the Environment Eds S Hanna, C Folkem, K G Maler (Island Press, Washington, DC) pp 127-156.

Ostrom, E. 1990. *Governing the Commons: The Evolution of for Collective Action*. Cambridge University Press, Cambridge.

Ostrom, E. et al. (eds) 2002. The Drama of the Commons. Washington, National Research Council.

Ostrom, E., 2005. Understanding Institutional Diversity. Princeton University Press, Princeton & Woodstock.

Vatn, A., 2005. *Institutions and the Environment*. Edward Elgar, Cheltenham, UK and Northampton, USA.

13. Property and Access Theory (1st Dec)

(*) Ribot, J., Peluso, N. 2003. A Theory of Access. *Rural Sociology*, 68(2): 153-181.

(*) Schlager, E. and E. Ostrom, E. 1992. Property-Rights Regimes and Natural Resources: A Conceptual Analysis. *Land Economics*, 68(3): 249-262

Corbera, E., Brown, K., Adger, W.N. 2007. The equity and legitimacy of markets for ecosystem services. *Development and Change* 38(4): 587-613.

Sikor T., Lund C., 2009. Access and property: a question of power and authority. *Development and Change*, 40(1): 1-22.

Sikor, T. (ed) 2008. Public and Private in Natural Resource Governance. A False Dichotomy? London, Earthscan.

von Benda-Beckmann F, von Benda-Beckmann K, Wiber M, 2006. "The properties of property", in *Changing Properties of Property* Eds F von Benda-Beckmann, K von Benda-Beckmann, M Wiber (Berghahn, New York).

14. Institutions: design, fit, interplay and scale (3rd Dec)

(*) Cumming, G.S. et al. 2013. Resilience, experimentation, and scale mismatches in social-ecological landscapes. *Landscape Ecology*, 28:1139-1150

(*) Reischl, G., 2012. Designing institutions for governing planetary boundaries - Lessons from global forest governance. *Ecological Economics*, 81: 33-40.

Basurto, X. and Coleman, E., 2010. Institutional and ecological interplay for successful self-governance of community-based fisheries. *Ecological Economics*, 69(5): 1094-1103

Corbera, E., Brown, K., 2008. Offsetting benefits? Analysing access to forest carbon. *World Development*, 36(10): 1956-1979.

Galaz, V., et al. 2012. 'Planetary boundaries' - exploring the challenges for global environmental governance. *Current Opinion in Environmental Sustainability*, 4 (1): 80-87.

Gómez-Baggethun, E., Kelemen, E., Martín, B., Palomo, I., Montes, C., 2013. Scale misfit in ecosystem service governance as a source of environmental conflict. *Society & Natural Resources*, 26: 1202-1216.

Wyborn, C. and Bixler, R.P., 2013. Collaboration and nested environmental governance: Scale dependency, scale framing, and cross-scale interactions in collaborative conservation. *Journal of Environmental Management*, 123: 58-67.

Young, O.R., 2002. The Institutional Dimensions of Environmental Change. Fit, Interplay and Scale. MIT Press, London.

15. Commodification of ecosystem services (10th Dec)

(*) Gómez-Baggethun, E., Ruiz-Pérez, M. 2011. Economic valuation and the commodification of ecosystem services. *Progress in Physical Geography*, 35: 617 - 632.

(*) Kosoy, N., Corbera, E. 2010. Payments for ecosystem services as commodity fetishism. *Ecological Economics*, 69: 1228-1236.

Luck, G.W., Chan, K.M.A., Eser, U., Gómez-Baggethun, E., Matzdorf, Norton, B., Potschin, M.B. 2012. Ethical Considerations in On-ground Applications of the Ecosystem Services Concept. *BioScience*, 62: 1020-1029.

Jax, K., Barton, D.N., Chan, K., de Groot, R., Doyle, U., Eser, U., Görg, C., Gómez-Baggethun, E., Haber, W., et al. 2013. Ecosystem services and ethics. *Ecological Economics*, 93: 260-268.

Marx, K. The commodity. In: Capital, Chapter 1. Read specially sections 1 (The Two Factors of the Commodity) and 4 (The Fetishism of the Commodity and Its Secret).

Polanyi, K. 2001. The Self-regulating Market and the Fictitious Commodities: Labor, Land, and Money. Chapter 6 in: The great transformation: The political and economic origins of our time. Boston: Beacon Press.

16. Payments for Ecosystem Services (11th Dec)

(*) Muradian, R., Corbera, E., Pascual, U., Kosoy, N., May, P. 2010. Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services. *Ecological Economics*, 69: 1202-1208. [worth looking at the whole special issue]

(*) Calvet-Mir, L., Corbera, E., Martín, A., Gross-Camp, N. and Fisher, J. 2015. Payments for Ecosystem Services in tropical and sub-tropical regions: a closer look at effectiveness and equity. *Current Opinion in Environmental Sustainability*, 14: 150-162.

Brouwer R, Tesfaye A, Pauw P., 2012. Meta-analysis of institutional economic factors explaining the environmental performance of payments for watershed services. *Environmental Conservation*, 38: 380-392.

Corbera, E. 2015. Valuing nature, paying for ecosystem services and realizing social justice: A response to Matulis. *Ecological Economics*, 110: 154-157.

Corbera, E., Brown, K. 2010. Offsetting benefits? Analysing access to forest carbon. *Environment and Planning A*, 42(7): 1739-1761.

Corbera, E., Soberanis, C., & Brown, K. (2009) Institutional dimensions of payments for ecosystem services. An analysis of Mexico's carbon forestry programme. *Ecological Economics*, 68: 743-761.

Martin-Ortega J, Ojea E, Roux C: Payments for water ecosystem services in Latin America: a literature review and conceptual model. *Ecosystem Services*, 6: 122-132.

Muradian et al., 2013. Payments for ecosystem services and the fatal attraction of win-win solutions. *Conservation Letters*, 6(4): 274-279.

Pascual, U., Phelps, J., Garmendia, E., Brown, K., Corbera, E., Martin, A., Muradian, R. and Gómez-Baggethun, E. 2014. Social equity matters in Payments for Ecosystem Services. *Bioscience*, 64(11): 1027-1036.

Pattanayak, S., Wunder, S. & Ferraro, P., 2010 Show me the money: do payments supply environmental services in developing countries? *Rev. Env. Econ. Pol.* 4: 254-274.

Vatn, A., 2010 An institutional analysis of payments for environmental services. *Ecological Economics*, 69: 1245-1256.

17. REDD+ and environmental offsets (15th Dec)

(*) Corbera, E., 2012. Problematizing REDD+ as an experiment in payments for ecosystem services. *Current Opinion in Environmental Sustainability*, 4, 612-619.

(*) Naughton-Treves, L., Wendland, K. 2014. Land Tenure and Tropical Forest Carbon Management. *World Development*, 55:1-6 [worth having a look at the whole special issue]

Angelsen, A. 2014. The economics of REDD+. In: Kant, S. & Alavalapati, J. (eds.) *Handbook in forest economics*. Routledge.

Beymer-Farris BA, Bassett TJ., 2012. The REDD menace: resurgent protectionism in Tanzania's mangrove forests. *Global Environmental Change*, 22: 332-341.

Bumpus A, Liverman D., 2008. Accumulation by decarbonization and the governance of carbon offsets. *Economic Geography*, 84: 127-155.

Liverman D., 2004. Who governs, at what scale and at what price? Geography, environmental governance, and the commodification of nature. *Annals of the Association of American Geographers*, 94: 734-738.

Lohmann L., 2005. Marketing and making carbon dumps: commodification, calculation and counterfactuals in climate change mitigation" *Science as Culture*, 14, 203-235.

Lovell H, Bulkeley H, Liverman D., 2009. Carbon offsetting: sustaining consumption? *Environment and Planning A*, 41: 2357-2379.

Putz, F.E., Redford, K.H., 2009. Dangers of carbon-based conservation. *Global Environmental Change*, 19: 400-401.

Robertson M M., 2000. Net loss: wetland restoration and the incomplete capitalization of nature. *Antipode*, 32: 463-493.

18. The environment-versus-growth debate (17th Dec)

(*) 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.

van den Bergh, J.C.J.M. 2009. The GDP Paradox. *Journal of Economic Psychology*, 30(2): 117-135.

van den Bergh, J.C.J.M. 2011. Environment versus growth - A criticism of "degrowth" and a plea for "a-growth"? *Ecological Economics*, 70(5): 881-890.