Universidad de Navarra

Environmental Economics

Guía docente 2026-27

PRESENTATION

Course: Environmental Economics

Academic Year: 2025-2026

ECTS: 3

Language: English

Type: Optional (Economics)

Módulo y materia de la asignatura: Bilingual Economics: Modulo 7. Optativas / Materia 7.2 Optativas Específicas

Year/Semester: Third Year, Second Semester

Professor: Susana Ferreira Martínez (sferreir@uga.edu)

Final Schedule and Location: In-person lectures + Remote (Zoom) lectures

*** Please mark your calendars!**

Online lectures (1 hour each):

Via Zoom all at 14:00

- February 5
- February 10
- February 12
- February 17
- February 19
- February 24
- February 26
- March 3
- March 17
- March 24
- April 14
- April 21

In-person lectures (3 hours each): * Please note multiple times and locations

- Friday March 6: 16:00-19:00 h. (aula 14 Amigos)
- Monday March 9: 16:00-19:00h. (aula 2 Arquitectura)
- Tuesday March 10: 14:30-17:00h. (aula 09 Amigos)
- Wednesday March 11: 16:00-19:00h. (aula 2 Arquitectura)
- Thursday March 12: 16:00-19:00h. (aula 2 Arquitectura)
- Friday March 13: 16:00-19:00h. (aula 2 Arquitectura)

IMPORTANT: The use of laptops, mobile phones and similar devices is NOT ALLOWED during in-person classes

Course description:

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Environmental Economics is the application of the principles of economics to the study of how scarce environmental resources are allocated by individuals and society. It focuses primarily on the role of incentives to manage the natural environment, and on how to design economic mechanisms to bring into balance environmental impacts and the needs of ecosystems, with human desires.The goal of this course is to familiarize students with the role that economics can play in understanding and tackling contemporary environmental challenges. Broad concepts considered include externalities, market failure, public goods, determining desirable levels of pollution control and sustainability. We will emphasize the scope for policy intervention and the design of appropriate policy instruments for different environmental challenges.

LEARNING OUTCOMES AND COMPETENCES

The goal of this course is to familiarize students with the role that economics can play in understanding and tackling contemporary environmental challenges. Broad concepts considered include externalities, market failure, public goods, determining desirable levels of pollution control and sustainability. We will emphasize the scope for policy intervention and the design of appropriate policy instruments for different environmental challenges.

Course objectives

By the conclusion of this course, you are expected to be able to:

- Explain how economic activity depends upon and affects the natural environment.
- Explain under which conditions markets are efficient and identify instances of "market failure" as they relate to the use of natural resources.
- Determine the efficient level of pollution in an economic framework.
- Identify and classify available public policy approaches to improve environmental quality.
- Compare environmental policy instruments (taxes, tradable permits, standards, voluntary action) according to the following evaluation criteria: efficiency, cost-effectiveness, equity, incentives for long-run improvement, political/public acceptability.
- Apply economic analysis to understand the complexity of climate change
- Explain the pros and cons of different environmental policy instruments to mitigate climate change.

Specific competencies

SSOP 3: Working with visual elements that provide insights and an understanding into complex concepts and components of economic and/or business problems

SSOP 5: Effective communication of results to a professional audience in economics and/or business

SSOP 7: Understand microeconomic strategies and their impact on financial management

SSOP8: Identify situations of resource and cost optimization.

SSOP 9: Understand the macroeconomic variables that regulate the economy and how they interact with business management

SSOP 10: Understand the societal role of economics and finance

PROGRAM

Below is a tentative list of topics and required readings. Deviations from this outline may be required. Additional readings may be provided. Please stay tuned.

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0. Introduction to Environmental Economics

Field and Field – chapter #1

1. The Economy and the Environment

Field and Field – chapter 2

Perman et al. – chapter #2

2. Economic efficiency and market failure: Externalities, Public Goods and the Commons

Field & Field – chapter #4

Fullerton, D. & R. Stavins (1998) "How Economists See the Environment" *Nature* 395(6701): 433-4

Hardin, G. (1968) “The Tragedy of the Commons.” *Science*, 162 (Dec. 13):1243-1248.

Parry, I. (2002) “Is Gasoline Undertaxed in the United States?” *Resources*, 2002, 148, RFF.

Greenstone, M., Kopits, E., & Wolverton, A. (2013) “Developing a social cost of carbon for US regulatory analysis: A methodology and interpretation” *Review of Environmental Economics and Policy*, 7(1), 23-46.

3. Modelling pollution control

(Introducing marginal abatement cost and marginal damage functions to calculate costs and benefits of pollution control, and to find efficient levels of pollution control)

Field & Field – chapter #5

4. Criteria for evaluating environmental policies

Field & Field – chapter #9

5. Environmental policies: Decentralized policies, Command and Control Strategies and Market-based Instruments

Field & Field – chapters #10-13

Coase, R. (1960), “The Problem of Social Cost,” *Journal of Law and Economics*, 1-44

Engel, S, S. Pagiola and S. Wunder (2008) “Designing payments for environmental services in theory and practice: An overview of the issues” *Ecological Economics* 65(4):63-74.

FAO case study (2013) “The Vittel Case: A public-private partnership in the mineral water industry” http://www.fao.org/3/a-bl927e.pdf

Portney, P. (2008) "The (Not So) New Corporate Social Responsibility: An Empirical Perspective" *Journal of Economic Perspectives*, 2008, Issue 2(2): 261–275

6. Climate change

Parry, I. and W. Pizer "Emissions Trading versus CO_2 Taxes" RFF backgrounder

The Economists’ voice - Several issues (www.bepress.com/ev):

Barret, S. “Proposal for a New Climate Change Treaty System” Nordhaus, W. “Carbon Taxes to Move Toward Fiscal Sustainability”

Klenert, D., L. Mattauch, E. Combet, O. Edenhofer, C. Hepbrun, R. Rafaty and N. Stern (2018) “Making Carbon Pricing Work for Citizens” *Nature Climate Change* 8: 669-77.

Climate Leadership Council “The Conservative Case for Carbon Dividends” (2017)

7. Expanding the measurement of economic and social progress: Sustainability and Quality of Life

8. (Time permiting) Benefit Cost Analysis

LEARNING ACTIVITIES

In-person lectures (x6) that will introduce the modules in the course and the individual assignments.

Class attendance and participation is expected and encouraged (as in part of your grade depends on it).

Remote lectures via Zoom (x12).

Final exam.

GRADING

CONVOCATORIA ORDINARIA

Your final grade will be on a 100-point scale split as follows:

- Five assignments (10 points each x5=50points)
- Class attendance and participation (0.5 points each x 30 hours=15 points)
- In class quizzes: 5 points
- In class 1-minute presentation: 5 points
- Final exam (25 points)

Under Spanish standards, a PASS in this class is obtained if you obtain 50 points.

CONVOCATORIA EXTRAORDINARIA

Final exam: 50 points of the grade, the other 50 points are based on the course individual assignments and class attendance and participation, in the proportions above.

OFFICE HOURS

By appointment.

Email: sferreir@uga.edu.

BIBLIOGRAFÍA

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Required materials

- Main textbook: Field, Barry C. and Martha K. Field, *Environmental Economics: An Introduction*, 8th Edition. McGraw-Hill Irwin: New York. Find it in the Library
- Academic articles as announced during class.
  - Hardin, G. (1968) "The Tragedy of the Commons." *Science*, 162 (Dec. 13):1243-1248.
  - Parry, I. (2002) "Is Gasoline Undertaxed in the United States?" *Resources*, 2002, 148, RFF.\
  - Greenstone, M., Kopits, E., & Wolverton, A. (2013) "Developing a social cost of carbon for US regulatory analysis: A methodology and interpretation" *Review of Environmental Economics and Policy*, 7(1), 23-46.\
  - Coase, R. (1960), "The Problem of Social Cost," *Journal of Law and Economics*, 1-44
  - Engel, S, S. Pagiola and S. Wunder (2008) "Designing payments for environmental services in theory and practice: An overview of the issues " *Ecological Economics* 65(4):63-74.
  - FAO case study (2013) "The Vittel Case: A public-private partnership in the mineral water industry" http://www.fao.org/3/a-bl927e.pdf
  - Portney, P. (2008) "The (Not So) New Corporate Social Responsibility: An Empirical Perspective" *Journal of Economic Perspectives*, 2008, Issue 2(2): 261–275
  - Parry, I. and W. Pizer "Emissions Trading versus CO_2 Taxes" RFF backgrounder
  - The Economists' voice (2007) Several issues (www.bepress.com/ev): Stiglitz, J. "A New Agenda for Global Warming"; Barret, S. "Proposal for a New Climate Change Treaty System"; Nordhaus, W. "Carbon Taxes to Move Toward Fiscal Sustainability"
  - Klenert, D., L. Mattauch, E. Combet, O. Edenhofer, C. Hepbrun, R. Rafaty and N. Stern (2018) "Making Carbon Pricing Work for Citizens" *Nature Climate Change* 8: 669-77.
  - Climate Leadership Council "The Conservative Case for Carbon Dividends" (2017)

Suggested materials

- Another (more advanced) text, not required but recommended: Perman, R., Y. Ma, M. Common, D. Maddison and J. McGilvray (2011): *Natural Resources & Environmental Economics* 4th ed. Pearson Education, London.
- The Economics of Biodiversity: The Dasgupta Review (2021)
- Encyclical Letter *Laudato Si'* of the Holy Father Francis on Care for our Common Home