Universidad de Navarra

***Economics and the Environment (F. Ciencias)***

*Teaching guide 2026-27*

# INTRODUCTION

This course shall analyse and discuss some of the main questions and problems which result from the intersection between the satisfaction of human needs and the environment, as well as the tools and solutions which are proposed for the resolution of environmental problems from the perspective of the economy and business.

The syllabus begins with a historical analysis of the relationship between economics and the environment, with the description of certain basic notions of technical economic concepts which are necessary for the comprehension of the course material and the application of economic tools. Thereafter, the main technical developments and advances shall be analysed by way of progressive subject matters.

- **Degree:** Environmental Science.
- **Module in the degree program:** V, Business Management and Administration.
- **ECTS**: 3 ECTS credits.
- **Year and semester:** First year, second semester.
- **Type of course:** Mandatory course.
- **Professor:** Dr. D. Kepa Solaun.
- **Language:** English.
- **Lecture schedule:** Fridays from 11:00 to 1:00 pm
- **Lecture theater:** Classroom 17 (Science Library Building).

# LEARNING OUTCOMES (Competencies)

- **RA5:** Explain the foundations of environmental legislation and public policies on sustainability, identifying their relationship with social processes and corporate social responsibility.
- **RA13:** Apply fundamental concepts of economics to environmental and social processes, assessing their impact on the environment.
- **RA14:** Identify the components of human personality and their relationships with the environment in its different dimensions, considering the dignity of the person and their physical and moral integrity, with particular attention to the values of equality, diversity and non-discrimination, sustainability, and respect for the environment.
- **RA17**: Design environmental policy tools and natural resource management strategies based on the economic analysis of ecosystem services and issues related to the sustainable use of the environment.
- **RA18:** Develope environmental risk mitigation and prevention plans based on the assessment of impacts arising from projects, activities, or policies, applying technical methodologies and strategic environmental assessment approaches.
- **RA23:** Design sustainability and ecological footprint indicators based on life cycle analysis (carbon footprint, water footprint, environmental footprint) that enable companies and organizations to verify whether they are meeting their proposed environmental objectives.
- **RA25:** Analyze the elements involved in integrated spatial planning, considering planning criteria and the implications of rural and urban development plans

# PROGRAM

Universidad de Navarra

The aim of the program is to extract the main concepts and methods of Environmental Economics. Given the diversity of existing approaches, the subjects and methods shall be explained as developments of the main paradigms of Environmental Economics.

In order to understand the syllabus and the proposals, it shall be necessary to have certain basic notions of economics and business management which shall be progressively explained.

**I. Economics and the environment. A brief introduction.**

- Introduction.

- Economics, money and the physical world. A historical approach.

- The limits to growth.

- Main paradigms in environmental economics.

**II. Fundamental economic concepts.**

- The science of scarcity.

- Economic methods and thinking.

- Microeconomics.

- Macroeconomics.

- Econometrics.

**III. Environmental decision-making.**

- Introduction.

- The pollution trade-off.

- Methodologies for environmental decision-making:

(1) The Cost-Benefit analysis.

(2) The Multicriteria analysis.

(3) The Cost-Effectiveness analysis.

**IV. Environmental valuation.**

- Introduction.

- The Total Economic Value and its components.

- Valuation methods:

(1) Replacement cost.

(2) Effect on production.

(3) Travel cost models.

(4) Hedonic pricing method.

(5) Contingent valuation.

(6) Choice modelling.

- Benefit transfer and meta-analysis.

**V. Economics and Environmental policy.**

- Introduction.

- Public tools for environmental protection:

(1) Regulation.

(2) Taxes.

(3) Emissions trading systems.

(4) Voluntary agreements.

- General conditions to formulate environmental policies.

**VI. Climate change economics.**

- Introduction.

- Climate science and background.

- Economics of climate mitigation.

- Economics of climate adaptation.

- Climate finance.

**VII. Natural resource economics.**

- Introduction.

- Sustainable development and resources.

- Game theory, property rigths and resource management.

- Applied natural resource economics:

(1) Non-renewable resources.

(2) Renewable resources.

# EDUCATIONAL ACTIVITIES

**Face-to-face activities**

**Lectures (20h).**

In these classes the most relevant aspects of the program shall be explained and discussed . At the end of each individual subject, the presentation shall be uploaded to ADI (Virtual Interactive Platform).

The teaching methodology of the subjects shall be based upon:

- Stimulate the creativity of students for the development of solutions by themselves and to discuss the materials without preconceived responses, so as to improve their critical and creative skills and in order to understand and retain essential concepts.

- A historical description and analysis of each one of the questions or areas raised, so that the students are able to understand how the main concepts were developed and the problems which resulted therefrom. This general study shall be combined with the definition and exposition of the most relevant concepts and the analysis of specific situations.

**Case studies (6h).**

For most of the subjects, one case study shall be explained, by way of the participation and discussion of students, role plays or specific tasks. The objective thereof is to provide a practical understanding of the problems and tools, as well as to stimulate the capacity of students to provide realistic and effective responses to environmental problems.

**Environment & Landscape Program (7h)**

This subject is part of the Environmental &Landscape Program. A full day visit has been scheduled so that students can have direct contact with some of the issues discussed in class.

**Individual work**

**Essays and self-evalutaion activities (7h).**

Students must develop some brief essays, under the instructions and methodology that will be provided, in which the teachings of the subject will be put into practice. They will also perform self-evaluation tests.

**Personal work of the student (35h).**

Students will have at their disposal a set of materials for ecah unit of the syllabus, after which a self-assessment activity will be carried out.

# ASSESSMENT

**Ordinary Evaluation**

- In-class tests (Wooclap) and Class Participation (including activities): **15%.**

- Self-evaluation tests: **15%.**

- Individual essays : **10%.**

- Final exam: **60%.** The exam will include two differentiated sections:

a) Short questions, aimed at verifying the assimilation by the student of the basic concepts.

b) Two essay-type questions by which the student shall demonstrate comprehension of a broad subject matter.

A minimum of 4 points out of 10 in the exam is required to pass the subject.

**NOTE:**

Students who repeat the subjects shall be assessed un the same manner as for the students of the ordinary examination.

The use of electronic devices during the exam is strictly forbidenn

**IMPORTANT:** Please note that any attempt at fraud, cheating, plagiarism, or any other improper conduct constitutes a serious offence, as established in Title IV, *"Rules on Students' Academic Discipline"*, within the University of Navarra's regulations governing coexistence and conduct within the university community.

**Extraordinary examination sitting**

100 % of the grade shall be based on the final exam, unless specific instructions are given for students under particular circumstances.

**Special educational needs**

Students with special educational needs must contact the Studies Coordination Office (faculty /school) in order to obtain the corresponding authorization for the appropriate adaptation of assessment conditions. The student must send this authorization to the lecturer at the beginning of the semester.

## OFFICE HOURS

Dr. Solaun **(ksolaun@globalfactor.com)**

linkedin.com/in/kepa-solaun-7866b529

ORCID

• **Face-to-face meetings:** Fridays, from 10:00 am to 11:00 am. By appointment only (by email or by request at the end of class).

•**Online meetings** can be requested by e-mail**.**

## BIBLIOGRAPHY AND RESOURCES

**• Required reading manual:**

- Solaun, K (2021). Environmental Economics. A guide for practitioners. Pamplona, Spain: Ediciones Universidad de Navarra, SA; ISBN 978-84-313-3594-6. Find it in the Library

**• Other materials:**

- Materials provided during the theoretical and practical classes.

- Class notes.

- Audio-visual material of the professor.

**• Additional recommended reference manuals:**

- Field, B.C. and Field, M.K. (2017). Environmental economics. An introduction. New York: McGraw-Hill International Edition. Find it in the Library

- Krugman, P. R., & Wells, R. (2017). *Essentials of economics* (4th edition). Worth Publishers. Find it in the Library

- Azqueta, D. (2007). Introducción a la economía ambiental. Madrid: Mc Graw-Hill. Find it in the Library (printed version)

- Garrod, G. and Willis, K.G. (2001). Economic Valuation of the Environment. Methods and Case Studies. Northampton (MA): Edward Elgar Publishing Limited. Find it in the Library

- Hanley M., Shogren, J.F. and White, B. (1997). Environmental Economics in Theory and Practice. Oxford University Press. Find it in the Library

- Labandeira, X., León, C.J. and Vázquez, M.X. (2007). Economía Ambiental. Madrid: Pearson, Prentice Hall. Find it in the Library

- Pearce, D.W. and Kerry Turner, R. (1994). Environmental economics: an elementary introduction. New York: London: Harvester Wheatsheaf. Find it in the Library

- Riera, P. (2016). Manual de Economía ambiental y de los recursos naturales. Madrid: Editorial Paraninfo. Find it in the Library

- Samuelson, P. A. and Nordhaus, W. D. (2010). Economics, Nineteenth Edition. New York: McGraw-Hill. Find it in the Library

- Stavins, R.N. (ed). (2012). Economics of the Environment. Selected Readings. New York: W. W. Norton & Company. Find it in the Library