

Interdisciplinary Concepts of Environmental, Economic and Social Sustainability:
Theory and Practice of Interdisciplinarity

Code: 45780

Credits: 3

2026/2027

Degree programme	Type	Course
Interdisciplinary Studies in Environmental, Economic and Social Sustainability	OB	1

Contact lecturer

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Prerequisites

No prior knowledge is required

Group languages

You can consult this information at the [end](#) of the document.

Objectives

General Objective

To analyse and apply interdisciplinary and transdisciplinary approaches in environmental sciences in order to critically address complex problems related to sustainability and global change.

Specific Objectives

To analyse the historical, philosophical and epistemological foundations of interdisciplinarity and transdisciplinarity, and to assess their relevance within the framework of sustainability science.

To identify and critically evaluate the values, implicit assumptions and epistemological pluralism present in environmental research, as well as the challenges associated with framing complex or wicked environmental problems.

To understand and apply the principles of transformative learning, integral systems thinking and the spheres of transformation in order to interpret processes of individual, collective and institutional change oriented towards sustainability.

To analyse and compare different approaches to knowledge co-production in global change research through the study of transdisciplinary research case studies, and to assess their methodological, social and political implications.

Learning outcomes

- CA01 (Analyse complex socio-environmental problems to support critical opinions on sustainability, understanding and contextualising the plurality of existing perspectives.) Analyse complex socio-environmental problems to support critical opinions on sustainability, understanding and contextualising the plurality of existing perspectives.
- CA02 (Critically evaluate the conclusions of interdisciplinary analyses in environmental studies.) Critically evaluate the conclusions of interdisciplinary analyses in environmental studies.
- CA03 (Demonstrate ethical responsibility and respect for diversity in interdisciplinary contexts by applying the concepts and theories of co-production in environmental, economic and social sustainability.) Demonstrate ethical responsibility and respect for diversity in interdisciplinary contexts by applying the concepts and theories of co-production in environmental, economic and social sustainability.
- KA01 (Describe the complexity of the interdisciplinary perspective in sustainability, by analysing its need and the existing barriers to its practice, differentiating between interdisciplinary and transdisciplinary approaches.) Describe the complexity of the interdisciplinary perspective in sustainability, by analysing its need and the existing barriers to its practice, differentiating between interdisciplinary and transdisciplinary approaches.
- KA02 (Define the different approaches to co-production in environmental studies, integrating the values, assumptions, methodologies and practices of the academic and non-academic groups involved.) Define the different approaches to co-production in environmental studies, integrating the values, assumptions, methodologies and practices of the academic and non-academic groups involved.
- SA01 (Apply principles of systems thinking to analyse the interaction between environmental, social and economic subsystems, critically assessing the different existing assumptions.) Apply principles of systems thinking to analyse the interaction between environmental, social and economic subsystems, critically assessing the different existing assumptions.
- SA02 (Independently select relevant scientific and technical information for the contextualisation and foundation of interdisciplinary projects.) Independently select relevant scientific and technical information for the contextualisation and foundation of interdisciplinary projects.
- SA03 (Apply co-production tools in interdisciplinary or transdisciplinary contexts, determining possible strategies based on the collective definition of the challenges to be addressed.) Apply co-production tools in interdisciplinary or transdisciplinary contexts, determining possible strategies based on the collective definition of the challenges to be addressed.

Contents

- Introduction to the history and theory of interdisciplinarity/transdisciplinarity in research on environmental, economic, and social sustainability.
- Historical evolution of interdisciplinary and transdisciplinary approaches in the scientific field.
- Main theoretical frameworks and key concepts applied to sustainability.
- Relevance of these approaches for addressing complex socio-environmental problems.
- The different approaches to co-production in research in the field of environmental, economic, and social sustainability.
- Definition and typologies of knowledge co-production.
- Role of scientific, institutional, and social actors in collaborative research processes.
- Advantages and challenges of co-production in sustainability projects.
- Review and preparation of practical co-production experiences.
- Analysis of real cases of co-production in different territorial contexts.
- Identification of good practices and success factors.

- Design of practical experiences adapted to specific research projects.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Essay writing	9	0.36	CA03, SA01, SA02, SA03
Readings and information search	30	1.2	SA02
Oral presentations by the lecturer	5	0.2	KA01, KA02
Individual study	17	0.68	CA01, KA01, SA02
Students presentation	3	0.12	SA01, SA02
Tutorials	1	0.04	CA02
Activity - Natural Protected areas (Castellet)	5	0.2	KA01, SA01
In-class debates	3	0.12	CA01, SA01, SA03
Response to the reading question	2	0.08	CA01, CA02, KA01, KA02

Students will be required to read, summarize, and prepare a brief presentation of an assigned reading for each session of this part. Each session will begin with a short introduction to the specific topic given by the instructor. A jigsaw methodology will then be used to present and discuss the assigned readings, followed by a group discussion of the main points addressed in the readings. Finally, students will individually complete a questionnaire based on the topics covered.

Annotation: within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Class participation	10%	0	0	CA01, CA02, CA03, SA01, SA02, SA03
Reading questions	40%	0	0	CA01, CA02, KA01, KA02
Essay	50%	0	0	CA03, SA01, SA02, SA03

Continuous Assessment

Course assessment will be based on responses to reading questions completed in class (40% of the final grade), a group essay completed at home (50%), and participation in the classroom (10%).

If a student does not obtain a minimum final grade of 5, they may retake the essay by submitting a new

individual essay to be completed on the date agreed upon on the first day of class. Reading questions and the participation grade are not recoverable.

Single Assessment

This module does not offer the Single Assessment option, in accordance with the coordination of the degree program and the Dean's Office of the Faculty of Sciences.

Use of AI

This module allows the use of Artificial Intelligence (AI) technologies exclusively for bibliographic research or information searching and text editing tasks. Students must: (i) identify the parts that have been generated using AI; (ii) specify the tools used; and (iii) include a critical reflection on how these tools have influenced both the process and the final outcome of the activity. Lack of transparency in the use of AI in this assessable activity will be considered a breach of academic honesty and will result in the activity being graded with a 0 and deemed non-recoverable, or in more severe sanctions in serious cases.

Plagiarism

Copying or plagiarism in any type of assessment activity constitutes a serious offense and will be sanctioned with a grade of 0, with no possibility of retaking, whether it is an individual or group assignment (in the latter case, all group members will receive a 0). If, during an individual in-class assignment, the instructor detects that a student is attempting to copy or use any type of document or device not authorized by the faculty, the student will receive a grade of 0, with no option for recovery. An assignment, activity, or exam will be considered "copied" when it reproduces all or a significant part of another student's work. A work or activity will be considered "plagiarized" when a portion of another author's text is presented as one's own without citing the sources, regardless of whether the original sources are in print or digital format.

Not Assessable

If a student has not submitted more than 30% of the assessment activities, they will be considered "not assessable."

Bibliography

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Software

There is no specific software for this module.

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TE) Theory (master)	1	English	first semester	afternoon