

Manifesto of the Discipline
“Environmental economics and sustainability issues”

PREMISE

On 28 April 2023, the Expert Group met to discuss the opportunities for permanently transforming university teaching of environmental economics into a multidisciplinary approach to EU environmental strategies and the Green Deal (GD).

The objective of the meeting was to discuss the drafting of the Discipline Manifesto in order to: 1) identify the relevant topics on which to base the necessary knowledge; 2) identify the methodological approach to transform knowledge into skills 3) specify which approach to use to provide a multidisciplinary, economic, environmental and social perspective. In particular, the relevant topics and the multidisciplinary perspective refer to all European strategies that address the topic of sustainability.

The Discipline Manifesto is guided by the LAURA project (LAURA -VaLuation of natural Assets and services and the eUropean gReen deAl - Project 101085658 —ERASMUS-JMO-2022-CHAIR), which introduces the strategies of the European Union on sustainability issues in secondary and tertiary education from the perspective of social, economic and statistical sciences and natural-environmental sciences.

The LAURA project exploits environmental valuation and ecosystem accounting as conceptual tools for teaching and understanding EU environmental strategies, projecting undergraduate students in a three-year degree course within economic studies towards a dynamic view of the contribution of different disciplines to the debate on the Green Deal and environmental valuation and accounting. In addition, the LAURA project targets teachers and students in secondary schools, where references to EU environmental policies and strategies on sustainability issues are practically non-existent, with dedicated formats (e.g. the “Le insidie dei luoghi” project).

Sustainability is largely a question of values. Shared values are the reference model that shapes society and guides economic growth and development. Redefining the production model implies a change of reference values: we have to change our way of thinking and look for tools that express the appropriate metrics for these values.

In the pursuit of sustainability, the green transition of the European New Green Deal aims to trigger a profound transformation of the way we live, work, and produce. The planned and ongoing policy mix is set to profoundly change the labour market. Therefore, the training of new and more suitable skills to interpret these transformations is both a challenge and a necessity for all those who are involved in education training, at different levels.

The future of jobs will be largely determined by the green transition and the issues addressed by the European New Green Deal.

This transformation will affect existing jobs that will require new “green' skills” in the future as well as emerging ones. For the former, these are in sectors as diverse as steel production, photovoltaic installation, inclusive landscaping, and sustainable finance. For the latter, these are jobs that are emerging on a small scale and are set to increase in the future. They range from agriculture, mobility assistance, materials data management and environmental data analysis.

In addition, jobs that do not yet exist may become regular jobs in the future. They include new forms of teaching, career counselling, energy production and matchmaking for sharing.

This Manifesto aims to highlight and share the need to work on issues related to the environment, sustainability and ecosystem services, and the importance of adapting our teaching programs and also our approach to teaching. It is necessary to respond to the new educational needs and to further qualify the educational offer by activating functional teaching methodologies capable of stimulating in pupils the assumption of essential faculties: to activate a competent attention to the

world as a whole; to develop a fervent and responsible participation in the life of one's own community and territory with a view to sustainability; to develop the critical capacities necessary to exercise dialogue and confrontation.

Manifesto of the discipline

In recent years, environmental protection has become more and more important in view of the increasingly worrying effects and consequences of human activity on ecosystems. The goal of making cities and communities sustainable, as well as increasing responsible consumption and production, combating climate change and protecting both terrestrial and aquatic life are all key objectives of the **2030 Agenda for Sustainable Development**, an action program for people, the planet and prosperity signed in 2015 by the governments of the 193 member countries of the UN. The need to adopt a new approach to environmental issues is necessarily also reflected in the economy. In order to achieve sustainable economic development models, an evolution in the economic approach to environmental issues is necessary.

First of all, it has been and continues to be necessary to move from a **defensive approach**, which seeks to remedy the critical phenomena of climate change resulting from human activity (pollution, reduction of biodiversity etc.) to a **proactive approach**, focusing on the prevention of harmful effects on the environment and collaborating in its cyclical restoration. It is therefore necessary to act on natural capital with the aim of stimulating economic growth within the limits and respecting the ecosystems in which it operates. To make this possible, the economic discipline had to equip itself with theoretical models borrowed from ecology and therefore based on the **concept of circularity**. The economy then becomes circular which *means regenerative by intention: it aims to rely on renewable energy and resources; minimizes, tracks, and eliminates the use of toxic chemicals; and eliminates waste through careful design*. The circular economy is also very attentive to the exploitation and preservation of ecosystem services: the multiple benefits provided by ecosystems to human-beings.

First proposition: using a proactive approach to understand environmental issues in the functioning of the economic system implies: 1) **adopting an ecological economics approach**, which is inspired by the functioning of the ecosystem to explain the functioning of the economic system according to a functional approach. The connection between the economic and social system and the ecological system is real and highlights some interesting aspects: the system is cooperative by nature and in many aspects it works well precisely when it operates collaboratively, in a functional structure rich in horizontal networks and of verticals of interaction between different subjects and on the basis of symbiotic and non-parasitic relationships; there are functional limits to the capacity of the economic system. The value of ecosystems as multifunctional systems for interpreting the functioning of the economy highlights clearly that the exclusive exploitation of some resources for the realization of economic activities (for example landscape resources for tourism or forest resources for the production of biomass) is not sustainable in terms of biodiversity because it involves the loss of other functions which, in that ecosystem, can only be achieved in an integrated way (aesthetic and cultural values, protection from erosion, carbon dioxide sequestration, regulation of the water cycle, etc.); 2) **adopting a systemic approach**. Sustainability works in a complex way, each aspect interacts with each other, and sustainability is achieved if everything works, all together. Therefore, we must equip ourselves with theoretical models that increase our ability to understand the complexity. This means adopting a systemic approach and a multidisciplinary perspective (collaboration between several areas of human knowledge is essential to overcome the challenge we face).

By introducing sustainability issues into the analysis of the economic system, the strategies, tools and governance of economic policy also change accordingly. Governments, policy makers, private

and public companies and end consumers are the protagonists of a transformation towards climate objectives and sustainability that is proposed as radical. The contents of the environmental economics courses have a common key that relates to current European environmental directives, strategies, action plans and guidelines, such as the 2030 Agenda for Sustainable Development, which incorporates the 17 Sustainable Development Goals (SDGs) into a major programme of action on a range of important development issues: combating poverty, eradicating hunger and combating climate change, to name but a few. The European Biodiversity Strategy 2030, which presents a comprehensive, ambitious and long-term plan to protect and restore the natural environment and ecosystems in the European Union. The Green Economy, which reads the economy from a sustainable perspective by making a bio-economic analysis of the system, also taking into account the environmental impact. The Green Communities, small communities that through local sustainable development plans set themselves a series of objectives, such as the management of local resources for energy production, the development of sustainable tourism, the integration of mobility services with less impact, zero-waste industry and the conscious construction of building structures. The 'Farm to Fork' strategy to guide the transition to a fair, healthy and environmentally friendly food system by making it more sustainable in several respects and reducing its impact on third countries. Green Jobs, which have emerged as a result of the so-called green transition, are growing and emerging in a wide range of sectors and with all skill levels. The New European Bauhaus or New European Bauhaus that stems from the desire to make the Green Deal a cultural experience, tangible and shared by European citizens with the aim of building a new future together, leveraging human creativity to find living solutions that incorporate sustainability and circularity, quality of experience and aesthetics, inclusion and affordability.

An epochal change in the system of economic development of the Planet is underway. It is necessary that the economic discipline equips itself with the necessary tools to transmit new theoretical models adapted to the novelty, maintaining an interdisciplinary approach and providing people and governments with the tools they need to fill the professions of the future and implement successful strategies in the direction of sustainable economic development.

Second proposition: The introduction of sustainability issues in the analysis of the economic system is intrinsically associated with the **transdisciplinary development of knowledge and all aspects of participation**. Building knowledge and formulating policy recommendations to promote socially, ecologically, and economically sustainable economic development, is a process that occurs through the interaction between different stakeholders: policymakers, officials, researchers, and communities. In this context, everyone produces and transmits knowledge to everyone else and everyone can use it. This particularly concerns the need to combine research and practical experience productively.



Manifesto of the teaching

LAURA - “Environmental economics and sustainability issues”

Within the framework of the previously described discipline, the LAURA project aims to make its contribution in the training of people (students and not only) and in making different realities dialogue (entrepreneurial, educational, etc.) to foster a greater exchange of information to achieve winning strategies.

To do this the project consists of:

1. **A main course** at the bachelor’s level that includes lectures, workshops and field experiments, participatory seminars.
2. **Additional activities** dedicated to the discussion of the Green Deal at the university level, for teachers and students at secondary schools and for the general public.

Main Course

Teaching – Environmental, Ecological and Circular Economics

Bachelors in economics and Natural & Environmental Sciences

Overview

The course provides a theoretical framework for interpreting the links between the economic system and the environment and for analysing the decision-making process of the public operator from both a normative and a positive approach to deal with environmental problems deriving from economic activities.

Aims and learning outcomes

Aims

The general training objective is the knowledge and understanding of reference methodologies for the analysis of phenomena related to environmental degradation and externalities, the use of natural resources and their interactions with the functioning of the economy, the process of economic growth and development. To this end, a further learning objective is the knowledge and understanding of reference methodologies for the application of economic and political evaluation processes for environmental changes.

Learning outcomes

Knowledge and understanding. Students acquire effective theoretical and applied knowledge to understand the relationships between environmental protection, the pursuit of economic efficiency, and market failure. This summarises the criterion of sustainability as the synthesis between the ability to promote growth through the optimal allocation of resources and goods and the ability to preserve the ecological basis of development.

Ability to apply knowledge and understanding. Students acquire the ability to apply knowledge and understanding to critically evaluate the role of environmental policy and public intervention in orienting and regulating markets and operators towards the objective of sustainability: evaluating how public and private choices in environmental matters influence the distribution of resources and income around the world. The national economy, between rich and poor countries of the world and the allocation of resources for future development; evaluate the main economic effects of alternative hypotheses of environmental instruments and policies (environmental taxation, pollution certificates, green economy, etc.).

Autonomy of judgment. The student must be able to apply the acquired knowledge with autonomous ability in different application contexts. Students will achieve autonomous judgment skills and a critical spirit on environmental policy proposals and choices at the end of the course. They will be able to investigate the main economic effects of public and private environmental choices, both from the point of view of equity and efficiency.

Communication skills. Students acquire the technical language of the discipline to communicate clearly and unambiguously with specialist and non-specialist interlocutors: companies and institutions that deal with environmental and economic variables in the decision-making process of their activity.

Learning skills. Students develop adequate learning skills that will allow them to continue to independently explore the main topics of the discipline, especially in the work contexts in which they will be active.

Teaching methods

The teaching method includes lectures, seminars, case studies, exercises to be carried out at home and/or in the classroom, and teamwork.

Syllabus/Content

Topics covered include:

- The Environmental Economics
- Scarcity, resource allocation and optimization
- Non-renewable resources: intertemporal models for optimal extraction
- Policies for renewable resources. Substitutability of natural capital and scarcity
- Sustainable development and growth patterns (bioeconomy and circular economy)
- Efficiency and control of environmental problems
- Environmental externalities and pollution
- Economic and fiscal instruments for environmental control
- Economic analysis and collective action for decision-making purposes
- Economic evaluation techniques for assessing social costs and benefits
- Intergenerational equity
- Environmental impact assessment, strategic environmental assessment and the multi-criteria techniques

Methodologies considered are:

- Hedonic prices
- Contingent valuation
- Choice experiment
- Cost-Benefit Analysis
- Multi-criteria Analysis
- Deliberative democracy and other no-market approaches

Additional Activities

Teaching Seminar – “Le insidie dei luoghi”

Bachelors in economics and Natural & Environmental Sciences, teachers and students at secondary schools

12-30 hours of teaching, seminar and laboratory activities

Aims

Subject: transformations of places and related economic, social, and environmental impacts

Perspective: take the point of view of policymakers. Municipalities, Regions, or national States that take decisions regarding territorial economic development.

Goal: provide policymakers with a base of data and useful information for a more informed decision-making process and participation. Information and participation are a mandatory path for public decision makers but also for private enterprises.

Content

Decisions such as transforming urban areas introducing permits to build, establishing marine protected areas or regional/national parks, introducing pedestrian areas and restrictions on the use of cars in the city-centre, building a bridge, modifying a road system, and generally providing infrastructure are likely to produce many different consequences or impacts.

Positive economic impacts mostly intended and negative often unforeseen, social and environmental, both positive and negative, sometimes foreseen.

The analysis of these multiple repercussions and the associated costs and benefits is the basis of the activity.

Teaching methods

- 1) Students are first trained on sustainability issues: threatens, opportunities, and challenges that are inherent in every change and in the transition towards climate objectives in particular.
- 2) At the second stage, students are asked to choose a theme, select a case-study, identify the subjects involved (stakeholders) identify the positive and negative economic, social and environmental repercussions for each category of subjects.
- 3) At the third stage, students must learn more about the theme and the case-study they intend to investigate, use different sources. Provide their interpretation of the transformations that are taking place. Provide their interpretation of how these transformations produce opportunities and benefits or disadvantages and costs or burdens for the different subjects.
- 4) The fourth stage is dedicated to a questionnaire design. Students will use a survey approach to validate their interpretation of the case-study. Define the questionnaire. For the interviews, the Q-methodology will be used. This is a research method used in social sciences to study people's "subjectivity". The interviewees are asked to express the degree of agreement/disagreement with the proposed statements and respondents correlate to others with similar opinions.
- 5) At the fifth stage the questionnaire is submitted, and results are analyzed.
- 6) At the final stage, results are disseminated to a more general audience in a public event.

knowledge skills acquired

Knowledge:

- 1) general on the topic of environmental, economic and social sustainability;
- 2) on the specific topics of the project chosen by the students;
- 3) on the survey techniques of sample surveys 4) on the analysis of descriptive statistics.

Skills:

- 1) Design and realisation of questionnaires;
- 2) Analysis of results;
- 3) Ability to transfer them to a wider audience.

Video of the Meeting of the Open Group of Experts Jean Monnet Chair LAURA

Below is the link to the video of the Meeting of the Open Group of Experts Jean Monnet Chair LAURA held on 28 April 2023:

<https://www.youtube.com/watch?v=Hvj73eHgFKw>