

COURSE: Environmental economics and circular bioeconomy (SECS-P/08 – CFU: 12)

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1. KNOWLEDGE AND SKILLS TO BE ACHIEVED DURING THE COURSE

Students of this course will be introduced to the main global environmental issues, that will be analyzed through economic theory. By the end of this course students will be expected to have gained basic knowledge of environmental economics and, thanks to the analysis of on-going theoretical development in this field, will be able to better understand complex environmental issues and new economic strategies that can help us overcome such challenges. The course also introduces concepts and issues related to the circular economy and the bioeconomy, nowadays fundamental to a course in environmental economics. This will provide the methodological and conceptual framework for further investigations related to economic-environmental issues.

2. PROGRAM/ CONTENTS

The course provides an economic analysis of environmental problems related to the use of raw materials and energy and to polluting emissions and waste, with the ultimate aim of highlighting the main processes associated with sustainable development and activities leading to global economic recovery. The sustainable management of natural resources, ecosystems and biodiversity associated with the circular economy model will be widely covered within the course.

Indeed, the circular economy is recognized as one of the most promising drivers influencing the new strategies for economic growth and the new Circular Economy Package adopted recently by the European Commission, aims to generate economic opportunities (cost reduction, innovation) and environmental benefits at the same time. In particular, the development of a bioeconomy, that is an economy in which the production processes utilize renewable biological resources from land and sea to produce food, materials and energy through frequently innovative and increasingly efficient technologies, represents a relevant theme for investigation. Accordingly, current studies on the circular economy will be presented with particular attention being paid to the potential benefits offered by a circular bioeconomy.

Overall, the course will focus on the following topics:

externalities and environmental problems; economic incentive instruments; the transition from depletable to renewable resources; new bio-based value chains; exploitation and replicability of business models.

3. TEXT BOOKS

Turner, R. K., Pearce, D., & Bateman, I. (1994). Environmental economics: an elementary introduction. Harvester Wheatsheaf (EUR 24,10)

Articles, essays and reports concerned with the above topics will be provided.

4. EDUCATIONAL METHOD AND TOOLS

The course is made up of two main modules. The first provides a general overview of environmental economics by illustrating key concepts of the environment-economy framework. The second deals with the most relevant opportunities for economic growth and will explore in particular the role of bioeconomy in the new circular economy scenario.

The course is organized as a combination of lectures, reading and writing of exam essays and group discussions. The course material will be provided in English, and you will be required to submit the assigned works and the final examination in English.

5. SELF-ASSESSMENT PROCEDURES

Students will be provided with a test quiz to test their knowledge before the exam.

6. EVALUATION METHODS (FINAL EXAM)

The exam evaluation will be carried out by means of an oral examination. An adequate knowledge of the topics included in the self-assessment test is a valid basis for evaluating your preparation. Participation in the interactive activities (possible reading and writing of essays, group discussions and webinars) will be taken into consideration during the exam session.

7. AREAS OF APPLICATION OF ACQUIRED KNOWLEDGE

By the end of this course students will be expected to have gained the following skills:

- Conduct research on specific topics covered on the course by literature reviews
- Identifying, collecting, analyzing, and using environmental and economic information;
- Analyze environment and economic trends and cycles;
- Hypothesize how the environmental event or trend may cause an economic outcome and what impact there will be;
- Provide reports to external stakeholders (both at industry and policy level).