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# Economic Policies for natural resources and the environment

## Prof. Roberto Zoboli

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The aim is to provide students with theoretical and applied knowledge of the economics and policies for the sustainable use of natural resources and the protection of the environment, in the framework of economic development processes and international inter-dependence.

At the end of the course, students are expected to have a sound knowledge of the theoretical principles on which sustainability policies at the global, international, and European level are based. Students are also expected to know the mechanisms and processes, as well as the recent developments, of policies for sustainable development, energy, climate change, circular economy and eco-innovation. To this aim, the course includes two workshops on eco-innovation and the global energy system. The course is expected to provide students with knowledge instruments they can apply in professional environments like policy making institutions and companies that pursue sustainability transition strategies.

***COURSE CONTENT***

1. Sustainable development: concepts, theories and economic models.

2. Principles and models for social choices on renewable, non-renewable and environmental resources

3. Economics instruments in environmental policy (taxation, emissions trading); as applied in Europe

4. Principles and economic models for international cooperation for the environment (global commons)

5. Economic aspects of international policies for climate change, carbon markets, and climate finance; developments in the implementation of the Paris Agreement 2015

6. Economic aspects of selected EU environmental policies (climate and energy; renewable energies; energy efficiency; waste and the circular economy)

7. Green economy and sustainability transition in Europe: the European Green Deal and its developments.

***READING LIST***

I. Musu, *Introduzione all’economia dell’ambiente,* Il Mulino, Bologna, 2003 (parts indicated during classes).

Slides presented during classes and material distributed during classes and/or made available on the professor's web page

***TEACHING METHOD***

Lectures; presentations by external experts; individual project works on case studies to be presented in class (to be decided).

***ASSESSMENT METHOD AND CRITERIA***

Mid-term exam on the topics of the first part (topics 1-4), final oral exam (topics 5-7). The main criterion of assessment is the correspondence between the student’s performance and the course aim and expected learning outcomes. A specific criterion for the part on models (topics 1-4) is the knowledge of how modelling can support strategies and policy decisions. For the part on international and European policies (topics 5-7), the main criterion is the knowledge of the mechanisms and the instruments of global and European policy and the socio-economic implications of these policies.

***NOTES AND PREREQUISITES***

Studenst are requested to have a basic knowledge of economics.

The second part of the course on interenational and European policies will be held in English.

Students must attend the two seminar cycles on, respectively: The economics of eco-innovation (Prof. Maria Chiara Catteneo); Global Energy Fundamentals (Prof. Simone Tagliapietra).

Further information can be found in the lecturer's webpage at <http://docenti.unicatt.it/web/searchByName.do?language=ENG> and in the Blackboard platform.

*Tutorials*

Wednesday, 10:30 – 12:30 at the professor’s office, DISEIS, Via Necchi 5, 5ft floor or, at student’s choice, by Teams meeting.

# Seminar cycle: Economics of ecoinnovation

## Prof. Maria Chiara Cattaneo

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

Innovation and sustainability are key issues that are closely interconnected: the development of technologies and “green” (eco-sustainable) processes - due to their pervasiveness - opens up important opportunities for innovation for both companies and territories, with a view to sustainable economic development. This comprehensive seminar cycle aims at providing the students with thematic insights within a European and international framework. At the end of the seminar cycle the students will be able to have a framework of policies and tools supporting eco-innovation at the European level; they will be able to analyze business models of innovative companies by identifying and examining their main components within a path aimed at pursuing greater sustainability at environmental, economic and social level, thanks to the opportunity that innovation can offer.

***COURSE PROGRAMME***

Main topics covered during lectures:

– Ecosystem of innovation, innovation and eco-innovation.

– Sustainability, companies’ and business development, supply chains and "green" technologies.

– "Green" and sustainable business models.

– Open innovation and environmental sustainability.

– Multilevel local development policies, clusters and "smart specialization" for eco-innovation.

***READING LIST***

Slides used in lectures and materials distributed during lectures and / or made accessible on the teacher's web page (blackboard).

***COURSE TEACHING METHODS***

Classroom lectures, discussion and projectwork, generally in groups, on case studies (with presentation during classes or online if needed).

# Seminar Cycle: Global energy fundamentals

## Prof. Simone Tagliapietra

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

This comprehensive seminar cycle provides a concise guide to the current status and future prospects of the global energy system. As the world moves away from fossil fuels and toward clean energy solutions, the complexity of the global energy system has increased. This course unpacks this complexity, offering a multidisciplinary perspective able to encompass its main economic, geopolitical, and basic technology characteristics. At the end of the seminar cycle, the student is expected to have an in-depth knowledge of the main components of the global energy system, as well as of the important issue of energy access in developing countries.

***COURSE PROGRAMME***

1. Introduction to global climate and energy trends

2. Global climate governance

3. Global energy transition

4. Geopolitics of the global energy transition

5. Green transition in developing countries

***READING LIST***

S. Tagliapietra, *Global energy fundamentals. Economics, politics and technology,* Cambridge University Press, Cambridge, 2020.

Further material will be indicated/distributed in class.

***TEACHING METHOD***

Lectures, to be held in English.