Syllabus

Course Description

Course Title	Energy and Resource Economics
Course Code	27613
Course Title Additional	
Scientific-Disciplinary Sector	ECON-03/A
Language	English
Degree Course	Master in Public Policy and Innovative Governance
Other Degree Courses (Loaned)	
Lecturers	
Teaching Assistant	
Semester	Second semester
Course Year/s	2
CP	6
Teaching Hours	36 ONLINE - NOT OFFERED
Lab Hours	-
Individual Study Hours	
Planned Office Hours	18 ONLINE
Contents Summary	Economic principles related to energy production, distribution, and consumption, and their relationship with climate change. Policy and regulation for sustainable energy and resource management, including externalities, international agreements, and renewable energy economics. Quantitative analysis using econometric models to measure policy effectiveness and market dynamics in energy and resource markets.
Course Topics	Natural resources, energy and economic development; economics of climate change, externalities, discounting, international agreements; energy markets and regulation; renewable energy economics; quantitative analysis of power markets and energy policy.
Keywords	

Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	Frontal lectures, exercises, computer labs, face-to-face discussions and flipped-classroom activities.
Mandatory Attendance	Attendance is recommended, but not mandatory.
Specific Educational Objectives and Learning Outcomes	ILO (Intended Learning Outcomes) ILO1 Knowledge and understanding ILO1.1 The student acquires the knowledge of economic theory necessary to understand and analyse economic and business phenomena in the public sector in order to support decision-making processes. Knowledge of public policy and the tools necessary for the design of sustainable policies will be consolidated. Knowledge related to the labour market, education and health will also be deepened, functional to the development of public policy analysis and evaluation skills. ILO2 Ability to apply knowledge and understanding ILO2.1 ability to interpret market trends through the application of appropriate economic models and implement economic analysis tools, also using data ILO2.2 ability to apply economic models to describe the behaviour of economic agents and develop sustainable economic policies in various application domains of interest to companies and public bodies ILO3 Making judgements ILO3.1 ability to apply acquired knowledge to interpret economic and business phenomena in order to make managerial and operational decisions in the context of public administration ILO3.2 ability to select data and use appropriate information to describe a problem concerning the design, implementation and evaluation of public sector projects and policies, aiming at innovation and improvement of processes, products and results ILO3.3 ability to relate models and empirical evidence in the study of public policy phenomena ILO3.4 ability to reflect, also in a perspective of public ethics and sustainability with regard to future generations, on the responsibilities connected to the use of public resources

	ILO4 Communication skills ILO4.1 ability to communicate effectively in oral and written form the specialised content of individual disciplines, using different registers according to recipients and communicative and didactic purposes, and to evaluate the formative effects of his/her communication ILO5 Learning ability ILO5.1 ability to use information technology autonomously to carry out bibliographical research and investigations and for one's own training and further education.
Specific Educational Objectives and Learning Outcomes (additional info.)	The course refers to the complementary educational activities chosen by the student and belongs to the scientific area of Economics (SECS-P/03). This course aims to enhance students' capacity to develop and scrutinize regulatory strategies for environmental sustainability. It explores the economics of energy and resources with a strong emphasis on understanding and addressing climate change through effective public policy and regulation. It combines theoretical insights with applied data analysis to prepare students for the challenges and opportunities in shaping sustainable environmental policies. Students will grasp essential economic concepts in energy production, distribution, and usage, comprehend the effects of climate change on economics and policy. They will also learn to handle datasets pertinent to resource and energy economics and markets, and to apply a variety of econometric modeling approaches to measure policy effectiveness and market dynamics, thus enhancing their ability to propose and analyze regulatory measures for environmental sustainability.
Assessment	Attending and Non-attendings students Group project with presentation (30%) on an applied problem where models and techniques taught in the course are implemented. (ILO 1-5)

	Final exam (70%). The exam will consist of review questions designed to test students' understanding of the course material. Questions will cover application-based scenarios that require to interpret and critical assess the results of quantitative analyses. (ILO 1-5) The final exam aims at assessing skill 1 (Knowledge and understanding). The computer-based group project allows to verify skills 2, 3 and 4 (Applying knowledge and understanding, Making judgements, Communication skills). Autonomous study and individual preparation leading to class activities (e.g. flipped classrooms) and required to pass the written exam indirectly verifies skill 5 (Learning skills). (ILO 1-5)
Evaluation Criteria	The written group project will train students to formulate and answer as a group an empirical question related to the material taught in the course. The purpose of the exam is to ascertain that students have the knowledge that is required to correctly assess, draw out solutions and discuss problems and challenges related to resource and energy economics.
Required Readings	
Supplementary Readings	
Further Information	This course is not offered this year
Sustainable Development Goals (SDGs)	