Syllabus
Course description

Course title	**Energy and Resource Economics**
Course code	27613
Scientific sector	Secs-P/03
Degree	Master in Public Policy and Innovative Governance (LM-63)
Semester and academic year	a.y. 2025/2026 Semester: 2. Semester
Year	2nd study year
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	-
Total exercise hours	-
Attendance	Attendance is recommended but not mandatory.
Prerequisites	not foreseen
Course page	Course Offering - enrolled from 2024 / Free University of Bozen-Bolzano (unibz.it)

Specific educational objectives	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.

Lecturer	TBD

Scientific sector of the lecturer	TBD
Teaching language	English
Office hours	18
List of topics covered	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.
Teaching format	Frontal lectures, exercises, computer labs, face-to-face discussions and flipped-classroom activities.

Learning outcomes	**Knowledge and understanding** The student acquires specific knowledge of resource and energy economics, current issues and challenges and how to formulate, answer and discuss possible solutions using the latest quantitative methods. **Apply knowledge and understanding** The student acquires the ability to analyze the business issues that characterize data-based decision support through the application of statistical methods and computational models in the field of resource and energy economics. The student acquires the ability to use and apply models suitable for market analysis and the formulation of economic of commodity and energy markets. **Making judgments** Ability to formulate challenges and questions related to current issues in resource and energy economics. Further students will have the ability implement appropriate quantitative tools for both the analysis and the interpretation of economic facts. **Communication skills** Ability to present in a consistent and precise manner the challenges and current questions in the field. Secondly students will learn how to present solutions supported by data supported quantitative analysis. **Learning skills** The course is aimed to provide learning skills on econometric and statistical methods, necessary to address subsequent studies, including advanced courses in mathematics, statistics, computer science, and quantitative economics. These learning skills will be maximally useful in the future professional environment as well as for the empirical analyses required in the final thesis.

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.
	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.
	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).
Assessment language	English
Evaluation criteria and criteria for awarding marks	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	The taught material will be based on selections of journal articles such as "Energy Economics", "The Energy Journal" or "Energy Policy".
Supplementary readings	TBD