Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	**Sustainability Economics**
Course code	27516
Scientific sector	Secs-P/05
Degree	Master in Data Analytics for Economics and Management – curriculum Data Analytics for Economics
Semester and academic year	2nd semester, a.y. 2024/2025
Year	2nd study year
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	-
Total exercise hours	-
Attendance	Highly suggested, but not required
Prerequisites	not foreseen
Course page	https://www.unibz.it/en/faculties/economics-management/master-data-analytics-economics-management/

Specific educational objectives	The course refers to the complementary educational activities chosen by the student. The course will provide a general and applied overview of modern sustainability economics, with a special focus on economic and statistical analysis at the intermediate level. It will start with the economic theory of environmental policy and with the analysis of the ways in which markets fail to efficiently allocate resources in the presence of externalities along with policies used to correct those market failures. A focus will be on the statistical methods used by economists to quantify the values of environmental commodities and the impact of environmental policies. Students acquire a broad knowledge in the field of sustainability economics and develop an economic intuition by means of examples and case studies. Students understand, among others, how to formulate and solve problems of sustainability using economic theory and the state-of-the-art statistical methods to identify the effect of environmental policies and value environmental commodities.

Lecturer	Giovanni Maria Mazzanti
Scientific sector of the lecturer	Secs-P/05
Teaching language	English
Office hours	TBD
List of topics covered	Main Topics: 1. Environmental Economics, the Theory of Market Failures and Formal Models of Externalities. 2. Environmental Problems and Policy Issues. 3. Theory of Environmental Policy and the Design of Environmental Policy. 4. Quantitatively Valuing the Environment: Applied Welfare Analysis, Revealed Preference Models, Discrete Choice Models, Property Value Models, Health Valuation, Cost-Benefit Analysis. 5. Quantitatively Evaluating the Effects of Major Environmental Policies such as pollution taxes, cap-and-trade systems, energy efficiency regulations.
Teaching format	Frontal lectures, exercises, case studies, face-to-face discussions and flipped-classroom activities.

Learning outcomes	1) **Knowledge and understanding:** Students should know analytical and quantitative tools used in environmental and sustainability economics and acquire knowledge on the theory of externalities with empirical applications to environmental and sustainable development, and sustainable resource use. 2) **Applying knowledge and understanding**: Students should be able to comprehend and apply research contributions. They will learn how to interpret theoretical ideas and applied quantitative research results such as to the ability to adapt government interventions in the area of sustainability. Moreover, students learn to apply useful data analytical skills in the context of sustainability economics. 3) **Making judgments**: Student should be able to reflect on specific problems and formulate judgments that include a quantitative valuation of environmental commodities and evaluation of environmental policies. 4) **Communication skills**: Students should be able to communicate content, key concepts, research ideas, problems and solutions as well as empirical research results to both a specialist and non-specialist audience.

	5) **Learning skills**: Students are able to link economic theory and specific economic problems related to the economics of sustainability. They are expected to extend their knowledge acquired during the course autonomously by reading and understanding scientific research and empirical analysis and to continue to undertake further study in order to do a literature review and to frame a proper research question

Assessment	Written and project work: written exam with review questions and project report done in groups. **For Attending Students:** • **Team Project Report and Presentation (40%):** Students will collaborate on a comprehensive project report that is relevant to the course's subject matter. This report will be accompanied by a presentation, where each team will articulate their findings and recommendations. • **Written Exam (60%):** The exam will consist of review questions designed to test students' understanding of the course material. Questions will range from theoretical knowledge to application-based scenarios that require critical thinking and synthesis of learned concepts. **For Non-Attending Students**: • Written Exam (100%): Non-attending students will take a more extensive written exam.
Assessment language	English

Evaluation criteria and criteria for awarding marks	The final exam is 60% of the final grade, while the project assignment is 40% of the final grade. For non-attending students the final exam is 100% of the final grade. Evaluation criteria relevant for both: clarity of answers, mastery of specific terminology, ability to summarize, evaluate, and establish relationships between topics, ability to apply concepts to real-world examples. • **Team Project Report**: ○ Depth and accuracy of content ○ Integration and application of course concepts to the project topic ○ Originality and creativity in problem-solving and analysis ○ Clarity, organization, and professionalism of the written report • **Team Presentation**: ○ Effectiveness of communication and ability to engage the audience ○ Visual and analytical clarity of presentation materials ○ Responsiveness to questions and ability to discuss the project in depth • **Written Exam**: ○ Comprehension of course material and key concepts ○ Ability to apply theoretical knowledge to practical scenarios ○ Critical thinking and analytical skills in responding to review questions ○ o Quality of written communication, including structure and articulation of arguments

Required readings	Phaneuf D.J., Requate T., *A Course in Environmental Economics: Theory, Policy, and Practice*, (any edition) Cambridge University Press.
Supplementary readings	Additional readings will be provided at the beginning of the course.