

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	semester tbd - 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	<p>The course refers to the complementary educational activities chosen by the student.</p> <p>The course will provide a general and applied overview of modern sustainability economics. It will focus on a short list of core concepts with a special focus on economic and statistical analysis at the intermediate level. Part I will start with the economic theory of environmental policy. It will cover the ways in which markets fail to efficiently allocate resources in the presence of externalities along with policies used to correct those failures. Part II will focus on the statistical methods used by economists to quantify the values of environmental commodities. Knowing these values is a necessary precondition for properly applying the policies covered in Part I. Moreover, it will cover recent statistical approaches to identify the causal effects of environmental policies described in Part I.</p> <p>Students acquire a broad knowledge in the field of sustainability economics and develop an economic intuition by means of examples and empirical applications. Students understand, among others, how to formulate and solve problems of sustainability using</p>
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	economic theory. Most importantly, students will not only be able to solve these models analytically, but also able to use state-of-the-art statistical methods to identify the effect of environmental policies and value environmental commodities.
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Lecturer	TBD
Scientific sector of the lecturer	Secs-P/05
Teaching language	English
Office hours	TBD
List of topics covered	<p>We will cover these topics:</p> <ul style="list-style-type: none"> • Environmental Economics and the Theory of Externalities (Market Failures, Formal Models of Externalities) • Environmental Problems and Policy Issues (Major Pollutants and Pollution Problems, Economics and Ecology, Policy Examples) • Introduction to the Theory of Environmental Policy (Damages and Costs, Property rights, Environmental Policy Instruments, Aggregate Marginal Abatement Cost Curve) • The Design of Environmental Policy (Imperfect Information, Competitive and Non-Competitive Output Markets) • Quantitatively Valuing the Environment (Applied Welfare Analysis, Revealed Preference Models, Discrete Choice Models, Property Value Models, Health Valuation, Cost-Benefit Analysis: Models and Empirical Calibration) • Quantitatively Evaluating the Effects of Major Environmental Policies (such as pollution taxes, cap-and-trade systems, and energy efficiency regulations).
Teaching format	Frontal lectures, exercises, computer labs, face-to-face discussions and flipped-classroom activities.

Learning outcomes	<ol style="list-style-type: none"> 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
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	<p>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, including valuation and econometric / causal inference methods, in the context of sustainability economics.</p> <p>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.</p> <p>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.</p> <p>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</p>
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<p>Assessment</p>	<p>For attending and non-attending students: I) Final exam (60% of the final grade). The final exam consists of analytical problems and the interpretation of quantitative research results. II) Project assignment (40% of the final grade). The project assignment requires the critical replication of existing empirical research in sustainability economics.</p> <p>The final exam tests Skill 1 (Knowledge and understanding). The project assignments allows to verify Skills 2, 3 and 4 (Applying knowledge and understanding, Making judgements, Communication skills). The skill concerned with autonomous study (Skill 5, Learning skills) is indirectly verified, because passing the final exam requires autonomous execution of exercises suggested by the lecturer as well as individual preparation to the class discussions and flipped-classroom activities.</p>
<p>Assessment language</p>	<p>English</p>
<p>Evaluation criteria and criteria for awarding marks</p>	<p>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: correct procedure and solution counts. In addition, solutions to</p>

	problems require the ability to summarize, evaluate, and demonstrate critical thinking.
Required readings	A Course in Environmental Economics: Theory, Policy, and Practice by Daniel J. Phaneuf and Till Requate (any edition)
Supplementary readings	The lectures will draw from journal articles. Additional literature will be given during class.