Energy Economics and EU ETS

Educational subject description sheet

Basic information

Field of study Joint Bachelor in Sustainability	**Education cycle** 2025/26
Speciality Economics, Management & Engineering	**Subject code** UJ.WPAJBSEMES.880.16489.25
Organizational unit Faculty of Law and Administration	**Lecture languages** english
Study level first cycle (joint degree programme)	**Subject related to scientific research** Yes
Study form full-time degree programme	**Disciplines** Economics and finance
Education profile General academic	**ISCED classification** 0311 Economics
Mandatory obligatory	**USOS code**

Subject coordinator	Piotr Szwedo
Lecturer	Guido Pepermans, Johan Eyckmans

Period Semester 4	**Examination** exam **Activities and hours** Lecture: 44	**Number of ECTS points** 5.0

Goals

C1	The aims of the course is to (1) introduce the main management and economics concepts related to environmental, energy and resource problems and (2) analyse the different policy instruments for sustainability

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the main management and economics concepts and theories related to environmental, energy and resource problems	JBS_K1_W01, JBS_K1_W03, JBS_K1_W05	written exam
W2	what are the main advantages and disadvantages of different policy instruments for sustainability	JBS_K1_W01, JBS_K1_W03, JBS_K1_W05	written exam
Skills – Student can:			
U1	use concepts and models from economics and business to analyse and develop a sustainability policy within an organisation	JBS_K1_U01, JBS_K1_U03	written exam
U2	use concepts and models from economics and business to analyse and develop a sustainability regulatory framework from a societal viewpoint	JBS_K1_U01, JBS_K1_U03	written exam
U3	reflect critically on the impact of societal, international and organisational trends on the sustainability policy of an organisation, while taking into account the consequences for the relevant stakeholders	JBS_K1_U01, JBS_K1_U03	written exam
Social competences – Student is ready for:			
K1	to keep their knowledge regarding sustainability topics up-to-date based on practice-oriented, policy-oriented and scientific information sources	JBS_K1_K04	written exam
K2	to critically assess and verbalize their own competencies and skills related to different aspects of sustainability as well as their need for development	JBS_K1_K04	written exam

Calculation of ECTS points

Activity form	Activity hours*	
Lecture	44	
preparation for classes	44	
preparation for the exam	60	
Student workload	**Hours** 148	**ECTS** 5.0

* hour means 45 minutes

Study content

No.	Course content	Subject's learning outcomes
1.	Introduction: energy challenges	W1, W2
2.	Energy efficiency gap	W1, W2, U1, U2

No.	Course content	Subject's learning outcomes
3.	Energy markets: oil	W1, W2, U1, U2
4.	Energy markets: gas	W1, W2, U1, U2
5.	Energy markets: coal	W1, W2, U1, U2
6.	Energy markets: renewables	W1, W2, U1, U2
7.	Electricity economics	W1, W2, U1, U2
8.	Electricity markets	W1, W2, U1, U2
9.	Electricity economics with renewables	W1, W2, U1, U2
10.	Guest lecture energy markets (ex. Gert Küpper ENGIE ?)	W1, U3, K1, K2
11.	Economic concepts of sustainability	W1, U2, U3
12.	Climate change and energy provision	W1, U2, U3
13.	Recent energy market developments	W1, W2, U2, U3
14.	EU climate policy and role of EU ETS	W1, W2, U2, U3
15.	Basics of EU ETS (scope, targets, trading platforms, …)	W1, W2, U2, U3
16.	Introducing emission trading simulation game	U1
17.	Carbon cost pass through Is EU ETS effective?	W1, W2, U2, U3
18.	EU ETS and save guarding competitiveness of European industry	W1, W2, U2, U3
19.	EU ETS and aviation and shipping	W1, W2, U2, U3
20.	Future outlook EU ETS (guest lecture Tom Van Ierland EU Commission DG Clima)	W1, U3, K1, K2
21.	Feedback emission trading simulation game	U1

Course advanced

Teaching methods :

text analysis, lecture with multimedia presentation, discussion, solving tasks, gamification

Activities	Examination methods	Credit conditions
Lecture	written exam	Written open book exam with closed and open questions. Students pass if they achieve minimally 10/20.

Entry requirements

None

Literature

Obligatory

1. Pepermans, G., Ovaere, M., Proost, S. & Morbée, J. (2023), Energy Economics, ACCO Publishers, Leuven, ISBN 9789464671681, https://shop.acco.be/en/items/9789464671681/Energy-Economics PowerPoint slides and extra material (academic papers, reports, videos, podcasts, …) are made available through the digital learning environment (Toledo Ultra)

Effects

Code	Content
JBS_K1_K04	The graduate can critically assess and verbalize own competencies and skills related to different aspects of sustainability as well as their need for development.
JBS_K1_U01	The graduate can critically analyse academic literature, formulate research questions and conduct research under supervision.
JBS_K1_U03	The graduate can apply adequate methods and tools, including selected IT tools, to solve problems related to data collection, analysis, and management in the context of sustainability.
JBS_K1_W01	The graduate can describe the concept of sustainability and recognize the differences in relevant definitions, models and approaches.
JBS_K1_W03	The graduate can give examples of sustainability-related dilemmas and hypothesize on the optimal course of action.
JBS_K1_W05	The graduate can identify essential international instruments and institutions related to sustainability and explain their potential role in resolution of a given problem.