European Geosystems

Educational subject description sheet

Basic information

Field of study Joint Bachelor in Sustainability	**Education cycle** 2025/26
Speciality Geography & Economics	**Subject code** UJ.WPAJBSGECS.840.16519.25
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** Earth sciences and the environment
Education profile General academic	**ISCED classification** 0532 Earth sciences
Mandatory obligatory	**USOS code**

Subject coordinator	Piotr Szwedo
Lecturer	Romain Courault, Céline Clauzel, David Garcia Álvarez, Jose Maria Fernandez

Period Semester 3	**Examination** exam **Activities and hours** Discussion class: 45	**Number of ECTS points** 5.0

Goals

C1	First steps in the track: getting acquainted with key disciplinary notions and concepts in order to apply them to sustainability studies.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the specific aspects of a disciplinary approach in both rural and urban context and the environmental challenges	JBS_K1_W04, JBS_K1_W07	written exam
Skills – Student can:			
U1	collect and analyse geographic and demographic data in the context of global climate change and efficiently use the bioclimatology tools and methodology	JBS_K1_U03	written exam
U2	explain and present the impacts of climate change to different types of audiences	JBS_K1_U04	written exam
Social competences – Student is ready for:			
K1	evaluate policies and suggest solutions based of scientific evidence	JBS_K1_K03	written exam
K2	use the scientific data to suggest climate policies and defend their position	JBS_K1_K05	written exam

Calculation of ECTS points

Activity form	Activity hours*	
Discussion class	45	
problem analysis	45	
preparation for the exam	30	
preparation for classes	15	
Student workload	**Hours** 135	**ECTS** 5.0

* hour means 45 minutes

Study content

No.	Course content	Subject's learning outcomes
1.	Section 1: Urban vs rural geography of Europe 2.3.10 • Introduction to European geography • Urbanization trends in Europe • Urban Infrastructure and land use • Cultural landscapes of urban Europe • Rural landscapes and Agricultural geography • Rural development policies • Environmental challenges in urban and rural areas	W1, U1
2.	Section 2: Stock & Fluxes: Demographics & migration geography within the context of global climate change 2.3.11 • Overview of key demographic concepts, measures & Intro to migration theories and patterns of migration • Climate change impacts on demographics • Environmental displacement and forced migration • Rural-urban migration and linkages to climate variability • Coastal and island communities: sea-level rise, coastal erosion and saltwater intrusion • Climate change, conflicts and migration • Adaptation strategies and policy responses	W1, U1, U2, K1
3.	Section 3: Bioclimatological dynamics in European urban and rural systems 2.3.12 • Intro to Bioclimatology • The trend of climate change/European warming and its impacts • Urban heat island effect and biological heat stress • Green infrastructures, and urban biodiversity • Water management in urban and rural areas • Ecosystem services & human well-being • Sustainable agriculture and land use • Integrating bioclimatology into planning and policies	W1, U2, K2

Course advanced

Teaching methods :

text analysis, brainstorming, conversation lecture, practicals

Activities	Examination methods	Credit conditions
Discussion class	written exam	Active participation (non-graded), written exam based on open questions (graded).

Entry requirements

None

Literature

Obligatory

1. ELLIOTT, Jennifer. An introduction to sustainable development. Routledge, 2012.
2. HALL, Tim et BARRETT, Heather. Urban geography. Routledge, 2012.
3. ILBERY, Brian. The geography of rural change. Routledge, 2014., MLA,
4. JONES, Andrew. Human geography: The basics. Routledge, 2012., MLA,
5. NEWBOLD, K. Bruce. Population geography: Tools and issues. Rowman & Littlefield Publishers, 2021.
6. PACIONE, Michael. Urban geography: A global perspective. Routledge, 2009.
7. PURVIS, Martin et GRAINGER, Alan. Exploring sustainable development: Geographical perspectives. Routledge, 2013.
8. TAYLOR, Marcus. The political ecology of climate change adaptation: Livelihoods, agrarian change and the conflicts of development. Routledge, 2014.

Effects

Code	Content
JBS_K1_K03	The graduate can consider different visions of the future and develop own evidence-based opinions in reference to the balance of values linked to economic development, social welfare, and environmental protection.
JBS_K1_K05	The graduate can defend the importance of scientific data and methods as a basis for decision-making.
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_U04	The graduate can plan and effectuate simple sustainability-related projects under supervision and in the context of personal lifelong learning, both individually and in a team, using appropriate transversal skills and taking shared responsibility for the outcome.
JBS_K1_W04	The graduate can identify sustainability-related problems specific to selected cultural, geographical, and political contexts.
JBS_K1_W07	The graduate can apply the theory and methodology of disciplines included in the selected specialisation track to sustainability-related problems, taking into consideration practical limitations such as protection of intellectual property.