



UNIwersYTET
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Climate change adaptation and human resilience

Educational subject description sheet

Basic information

Study programme Geohazards and Climate Change		Didactic cycle 2023/24
Speciality -		Subject code 07GCCS.24HS.02875.23
Organizational unit Faculty of Geographical and Geological Sciences		Lecture languages English
Study level Second-cycle programme		Course type Obligatory
Study form Full-time		Block Humanities and social subjects
Education profile General academic		
Subject coordinator	Iwona Markuszewska	
Lecturer	Iwona Markuszewska	
Period Semester 3	Activities and hours <ul style="list-style-type: none">• Lecture: 15, Exam• Laboratories: 15, Graded credit	Number of ECTS points 4

Goals

Code	Goal
C1	Familiarizing students with the concept of low carbon society.
C2	Providing students with knowledge in the field of adaptation to climate changes at global, regional and local scales.
C3	Making students familiar with solutions of human resilience in uncertain environmental changes.
C4	Making students familiar with adaptation techniques to the changing environment.

Entry requirements

Knowledge about climate changes and their impact on human well-being.

Subject learning outcomes

Code	Outcomes in terms of	Learning outcomes	Examination methods
Knowledge - Student:			
W1	knows and understands the concept of low-carbon society;	GCC_K2_W02, GCC_K2_W07, GCC_K2_W08, GCC_K2_W09, GCC_K2_W15, GCC_K2_W17, GCC_K2_W18	Project, Essay
W2	knows and understands what climate changes mean for human life and how communities can build ability to resilience.	GCC_K2_W02, GCC_K2_W07, GCC_K2_W08, GCC_K2_W09, GCC_K2_W15, GCC_K2_W17, GCC_K2_W18	Project, Essay
Skills - Student:			
U1	identifies solutions for human resilience in uncertain environmental changes now and in the future.	GCC_K2_U01, GCC_K2_U02, GCC_K2_U05, GCC_K2_U06, GCC_K2_U07, GCC_K2_U12, GCC_K2_U13	Project, Essay
Social competences - Student:			
K1	is prepared to take action to ensure human well-being in changing climatic conditions;	GCC_K2_K01, GCC_K2_K02, GCC_K2_K03, GCC_K2_K04, GCC_K2_K05, GCC_K2_K06, GCC_K2_K07	Project, Essay
K2	is prepared to take action to propose solutions for adaptation to climate change at global, regional and local scales.	GCC_K2_K01, GCC_K2_K02, GCC_K2_K03, GCC_K2_K04, GCC_K2_K05, GCC_K2_K06, GCC_K2_K07	Project, Essay

Study content

No.	Course content	Subject learning outcomes	Activities
1.	Psycho-sociological perception of climate changes.	W2	Lecture
2.	Low-carbon society: concept and practice.	W1, U1, K1, K2	Lecture, Laboratories

No.	Course content	Subject learning outcomes	Activities
3.	Adaptation to climate changes at global, regional and local scales: case studies.	W1, W2, U1, K1, K2	Lecture, Laboratories
4.	Solutions to support human in coping with the negative impact of climate changes.	W2, U1, K1, K2	Laboratories
5.	Countries and communities adaptation to climate change – practical experiences.	W1, W2, U1, K1, K2	Laboratories
6.	Climate change adaptation in food security.	W1, W2, U1, K1, K2	Lecture, Laboratories
7.	Benefits of sustainable agroforestry.	W1, W2, U1, K1, K2	Lecture, Laboratories
8.	Blue and green infrastructure in cities in flood prevention in urban areas.	W1, W2, U1, K1, K2	Lecture, Laboratories
9.	Passive and energy safe buildings, public transport, waste management.	W1, W2, U1, K1, K2	Lecture, Laboratories
10.	Nature-based solutions for human resilience in uncertain environmental changes.	W2, U1, K1, K2	Lecture, Laboratories

Additional information

Activities	Teaching and learning methods and activities
Lecture	Lecture with a multimedia presentation of selected issues, Conversation lecture, Problem-based lecture, Discussion, Case study, Problem-based learning, Research method (scientific inquiry)
Laboratories	Work with text, Case study, Problem-based learning, Classes method

Activities	Credit conditions
Lecture	Active participation (30% of the final grade). Preparation a project (70% of the final grade). Grading scale: 1. very good (5.0) - from 90% of points, 2. good plus (4.5) - from 80% of points, 3. good (4.0) - from 70% of points, 4. sufficient plus (3.5) - from 60% of points, 5. satisfactory (3.0) - from 50% of points, 6. unsatisfactory (2.0) - below 50% of points.
Laboratories	Active participation (30% of the final grade). Preparation an essay (70% of the final grade). Grading scale: 1. very good (5.0) - from 90% of points, 2. good plus (4.5) - from 80% of points, 3. good (4.0) - from 70% of points, 4. sufficient plus (3.5) - from 60% of points, 5. satisfactory (3.0) - from 50% of points, 6. unsatisfactory (2.0) - below 50% of points.

Literature

Obligatory

1. Zommers Z., Alverson K., 2018: RESILIENCE: The Science of Adaptation to Climate Change. Elsevier.
2. Glavovic B.C., Smith G.P., 2016: Adapting to Climate Change : Lessons from Natural Hazards Planning. Springer.
3. Walter Leal Filho, 2025: Handbook of Climate Change Adaptation. Springer.

Optional

1. Journal of Environmental Psychology.

Calculation of ECTS points

Activities	Activity hours*
Lecture	15
Laboratories	15
Preparation of a project	30
Semester paper preparation	30
Reading the indicated literature	20
Student workload	Hours 110
Number of ECTS points	ECTS 4

* academic hour = 45 minutes

Efekty uczenia się dla kierunku

Kod	Treść
GCC_K2_K01	The graduate is ready to implement and popularize actions serving the environmental protection
GCC_K2_K02	The graduate is ready to identify the influence of environmental processes onto the socio-economic processes, and also influence of anthropogenic activities onto the various components of the natural environment in various timescales
GCC_K2_K03	The graduate is ready to communicate, discuss and argue burning issues, hazards and problems associated with the climate, climate and environment changes for wider, non-scientific audience
GCC_K2_K04	The graduate is ready to use reliable sources of information associated with environmental hazards and climate and critical assessments of these sources
GCC_K2_K05	The graduate is ready to prioritize in order to successfully complete of the task
GCC_K2_K06	The graduate is ready to think and act creatively
GCC_K2_K07	The graduate is ready to undertake the cooperation within the crisis management teams and solve the conflicts
GCC_K2_U01	The graduate can vary between natural and anthropogenic causes of climate change and associated environmental changes and geohazards
GCC_K2_U02	The graduate can critically assess future climate change scenarios and associated environmental changes and geohazards
GCC_K2_U05	The graduate can an extended degree use the scientific terminology and vocabulary, read the advanced scientific literature with understanding
GCC_K2_U06	The graduate can critically assess the sources of information on climate and environmental change and associated geohazards
GCC_K2_U07	The graduate can look for and select the necessary information from the scientific literature and other written sources and based on that learn and continuously update the knowledge throughout the life
GCC_K2_U12	The graduate can apply qualitative methods for solving the human-environment conflicts
GCC_K2_U13	The graduate can use in practice the environmental management principles leading to improvement of quality of life
GCC_K2_W02	The graduate knows and understands thoroughly, climate functioning and mechanisms of atmospheric processes and the anthropogenic influence on the climate
GCC_K2_W07	The graduate knows and understands thoroughly complex socio-economic processes in the local, regional and global scale and their influence on the occurrence of extreme environmental events
GCC_K2_W08	The graduate knows and understands thoroughly, the influence of the climate change, extreme environmental events and geohazards on the socio-economic processes
GCC_K2_W09	The graduate knows and understands thoroughly, relationship between climate and environmental change and necessity of formulation of the adaptation strategies
GCC_K2_W15	The graduate knows and understands advanced vocabulary associated with climate change, natural environment and geohazards
GCC_K2_W17	The graduate knows and understands thoroughly, the literature in the field of climate change, geohazards as well as basic environmental and social research
GCC_K2_W18	The graduate knows and understands thoroughly, the most up to date trends in science and implementation of the newest scientific achievements in studies field