University of Gdańsk

Subject card

Subject name and code	Contemporary Problems of Environmental Geography - lecture, PG_00197335		
Field of study	Geography		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2029/2030
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	English
Semester of study	5	ECTS credits	3.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Palaeoenvironmental Research -> Department of Geomorphology and Quaternary Geology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Maurycy Żarczyński	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	30	2.0	43.0	75

Subject objectives

Presentation of selected problems and research directions in contemporary environmental geography, in particular: past and present global climate change forcing factors, mechanisms, processes, and future consequences; biodiversity loss and conservation strategies; contemporary environmental pollution; geohazards; and international mitigation and adaptation strategies.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GEOGRL3-W04] has advanced knowledge of the Earth's geographical environment, understood as a unified system of interconnected and interacting components; its diversity, functioning, and dynamics of change, including the interaction of environmental components in the area of the South Baltic Coast and Lake District	Describes functional relationships between Earth system components and explains mechanisms of past and contemporary environmental changes, including climate change, biodiversity loss, and environmental pollution.	[SW4] test/exam - oral or written
[GEOGRL3-U01] can dentify and analyze basic natural and socio-economic processes and phenomena, analyze their causes and course, and formulate and discuss basic issues concerning physical-geographical conditions and the social, economic, and political situation and their changes on various spatial scales	Identifies contemporary environmental problems — climate change, biodiversity loss, pollution, and geohazards — and distinguishes mitigation and adaptation strategies applied at regional and global scales.	[SU4] test/exam - oral or written
[GEOGRL3-U05] can use scientific language and express opinions and discuss topics related to geography in Polish and a foreign language	Uses English-language scientific terminology to describe global environmental problems.	[SU4] test/exam - oral or written
[GEOGRL3-K03] is prepared to social action, including cooperation to preserve the ecological balance and protect the Earth's resources and its sustainable development, using forms of own entrepreneurship for this purpose	Recognizes and characterizes international agreements, agendas, and action strategies for environmental protection and sustainable development.	[SK4] test/exam - oral or written

Subject contents

- Past global changes: international research programmes and scientific organizations;
- Scientific ocean drilling: investigating the seafloor;
- Geological and cryospheric archives: past global climate changes recorded in ice cores;
- Continental scientific drilling: environmental history recorded in terrestrial sediment archives;
- Past human-environment interactions: erosion and landscape evolution;
- Contemporary climate change: physical basis, mechanisms, and research;
- International climate dialogue: institutions, agendas, political and financial aspects;
- Climate change and natural/anthropogenic ecosystems: observed and projected impacts, mitigation and adaptation measures;
- Biodiversity loss: causes, scale, and geography of the phenomenon;
- Biodiversity conservation: agendas, international agreements, and conservation strategies;
- Contemporary environmental pollution: microplastics, light pollution, noise pollution, antimicrobial resistance;
- Geohazards: floods, droughts, wildfires, and early warning and response systems.

Prerequisites and co-requisites

B+ efficiency in English.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written test	51.0%	100.0%

Recommended reading

Basic literature	• Fischer H., Kull C., Kiefer T., Ice core science, PAGES news, 14(1), 1-44, https://doi.org/10.22498/pages.14.1, 2006 • ICDP, ICDP Science Plan 2020-2030, https://www.icdp-online.org/media/icdp-science-plan, 2020 • Koppers A.A.P., Coggon R. (eds.), Exploring Earth by Scientific Ocean Drilling: 2050 Science Framework, https://doi.org/10.6075/J0W66J9H, 2020 • IPCC, Sixth Assessment Report Synthesis Report (Summary for Policymakers), www.ipcc.ch, 2023 • IPBES, Global Assessment Report on Biodiversity and Ecosystem Services (Summary for Policymakers), https://ipbes.net/global-assessment, 2019
Supplementary literature	• IPCC, Special Report: Global Warming of 1.5°C (Summary for Policymakers), www.ipcc.ch, 2018 • IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate (Summary for Policymakers), www.ipcc.ch, 2019 • IPCC, Special Report: Climate Change and Land (Summary for Policymakers), www.ipcc.ch, 2019 • Mann M.E., The New Climate War, PublicAffairs, New York, 2021 • Popkiewicz M., Kardaś A., Malinowski S., Nauka o klimacie, Wydawnictwo Sonia Draga, Katowice, 2019
eResources addresses	

Example issues/ example questions/ tasks being completed	• Explain how ice core analysis allows reconstruction of past climate changes. What proxy indicators are used? • Which of the following is NOT an example of a functional relationship between Earth system components? • Identify the differences between climate change mitigation and adaptation strategies. Provide two examples of actions at regional and global scales. • Which of the following is the main dispersal pathway of microplastics in the environment? • Explain the difference between "climate forcing" and "climate feedback" and provide one example of each. • Which of the following correctly defines "tipping point" in the context of environmental change? • Characterize the objectives of the Paris Agreement and the Convention on Biological Diversity (CBD). What mechanisms do these agreements provide to achieve their goals? • Which of the following instruments is directly related to the international early warning system for geohazards?
Work placement	Not applicable

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