

Subject card

Subject name and code	Environmental change reconstructions, PG_00135489						
Field of study	Physical geography and geoinformation						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study 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	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Laboratory of Geomorphological Reconstructions -> Department of Geomorphology and Quaternary Geology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Piotr Woźniak				
	Teachers		dr hab. Piotr Woźniak dr Sambor Czerwiński				
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		15.0		30.0	75
Subject objectives	1. Presentation of the main methods used in palaeoenvironmental reconstructions. 2. Explanation of the mechanisms conditioning long-term environmental changes. 3. Presentation of indicator features of selected sedimentary environments. 4. Presentation of the role of research on the past of the environment in the context of its current and future changes.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GFGMU2_W08] the most important contemporary problems on a regional and global scale, their essence, genesis and possible consequences	Knows and understands the problem of anthropogenic changes in the natural environment on a regional and global scale, their essence, genesis and possible consequences.	[SW4] test/exam - oral or written
	[GFGMU2_U02] precisely and appropriately use terminology in the field of physical geography and geoinformation in oral statements and written works	Can properly apply terminology used in the reconstruction of sedimentary environments.	[SU4] test/exam - oral or written
	[GFGMU2_U03] effectively use selected scientific literature in the field of physical geography and geoinformation, both in Polish and English	Can choose the literature necessary to prepare for the exam.	[SU4] test/exam - oral or written
	[GFGMU2_W02] issues in the field of exact sciences enabling the understanding of complex processes and phenomena occurring in the Earth's natural environment, and in their interpretations consistently rely on empirical foundations, using qualitative and quantitative methods	Knows and understands the interdisciplinary approach in Earth and environmental sciences, as well as qualitative and quantitative methods used in environmental reconstructions.	[SW4] test/exam - oral or written
	[GFGMU2_U05] integrate knowledge from the discipline of Earth and environmental sciences, explaining and interpreting the interrelationships between environmental processes and phenomena in order to solve research problems in physical geography and geoinformation	Is able to integrate knowledge in the field of Earth and environmental sciences, correctly explaining and interpreting the mutual relations between processes and phenomena accompanying environmental changes at different time scales.	[SU4] test/exam - oral or written
	[GFGMU2_K01] critical assessment of knowledge in the field of Earth and environmental sciences and geoinformation, its completion and verification through critical analysis of scientific literature	Can prepare for the exam by critically reading the literature.	[SK4] test/exam - oral or written
	[GFGMU2_W01] the specificity of Earth sciences in the field of physical geography, its internal structure, research subject and main research directions, conceptual apparatus, as well as practical applications of scientific achievements	Knows and understands the interdisciplinary approach in Earth and environmental sciences, as well as qualitative and quantitative methods used in environmental reconstructions.	[SW4] test/exam - oral or written

Subject contents	1. Natural environmental archives. 2. Methods of sediment and natural processes dating. 3. Mechanisms for controlling changes in the environment. 4. The use of abiotic indicators in environmental reconstructions. 5. The use of biotic indicators in environmental reconstructions. 6. Reconstructions of fluvial and fluvio-glacial environments. 7. Reconstructions of aeolian and periglacial environments. 8. Reconstructions of mass movements and seismic phenomena. 9. Reconstructions of the glacial environment. 10. Ice cores as a source of information about the past of the environment. 11. Oceanic and marine sediments as a source of information about the past of the environment. 12. Lake sediments as a source of information about the past of the environment. 13. Peat bogs as a source of information about the past of the environment. 14. Fossil soils as a source of information about the past of the environment. 15. Environmental reconstruction and forecasting future changes.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	100.0%
Recommended reading	Basic literature Allen P.A., 2000, Procesy kształtujące powierzchnię Ziemi. PWN, Warszawa. Bennet M.R., Glasser N.F., 2009, Glacial geology. Ice sheets and landforms. John Wiley & Sons, Chichester. Mannion A.M., 2001, Zmiany środowiska Ziemi. PWN, Warszawa. Mycielska-Dowgiałło E., Rutkowski J. (red.), 2007, Badania cech teksturalnych osadów czwartorzędowych. SWPR, Warszawa. Smol J.P., 2008, Pollution of Lakes and Rivers. A Paleo-environmental Perspective. Blackwell Publishing, Oxford. Weiner J., 2006, Życie i ewolucja biosfery. PWN, Warszawa. Zieliński T., 2014, Sedymetologia. Osady rzek i jezior. UAM, Poznań.		

	Supplementary literature	Mojski J. E., 2005, Ziemie polskie w czwartorzędzie, PIG, Warszawa. Renfrew C., Bahn P., 2002, Archeologia. Teorie, metody, praktyka. Prószyński i S-ka, Warszawa. Stanley S.M., 2005, Historia Ziemi. PWN, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Link the research material to the method of its dating. 2. List biotic indicators used in palaeoenvironmental research.	
Work placement	Not applicable	

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