University of Gdańsk

Subject card

Subject name and code	Environmental change reconstructions (Laboratury classes), PG_00201197		
Field of study	Physical geography and geoinformation		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	2.0
Learning profile	academic	Assessment form	credit
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 Sambor Czerwiński	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15	2.0	33.0	50

Subject objectives	1. Introduction to selected methods used in paleoenvironmental research. 2. Learning the preliminary palaeogeographic interpretation of the results of selected laboratory and field analyses.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GFGMU2_W02] knows and understands to a deepened extent 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 relay 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.	[SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[GFGMU2_U03] is able to use academic literature in the fields of physical geography and geoinformation in Polish and English, selecting it appropriately for the research objective	Can effectively use scientific literature on the issues of environmental changes in the past.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work
[GFGMU2_W08] knows and understands in a deepened extent the most important contemporary problems in the field of contemporary climate change and environmental crises on a regional and global scale, their essence, genesis and possible consequences	Knows the most important anthropogenic factors that could have influenced the characteristics of the studied sediments.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[GFGMU2_K01] is ready to critically assess the knowledge obtained in the field of Earth and environmental sciences, particularly physical geography and geoinformation, its completion and verification through further critical analysis of scientific literature	Is ready to critically evaluate his/ her knowledge of environmental change, supplement and verify it through critical reading of the appropriate literature.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report [SK3] text preparation/written work
[GFGMU2_U02] is able to 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 various sedimentary environments in a written work.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written [SU5] implementation of a problem task
[GFGMU2_U05] is able to 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.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[GFGMU2_W01] knows and understands to a deepened extent the specificity of Earth sciences in the field of physical geography, its internal structure, research subject and main research directions, the methods applied, conceptual apparatus, as well as practical applications of scientific achievements	Knows and understands the subject of research, the main research directions and the conceptual apparatus of palaeogeography, as well as the practical applications of scientific research in the field of reconstruction of environmental changes.	[SW2] presentation/project/paper/ report [SW5] implementation of a problem task

Subject contents

1. Analysis of main components of a sediment.

2. Selected microscopic methods used in environmental reconstructions.

3. Palaeogeographic interpretation of laboratory and field analyses results.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
oral presentation	51.0%	30.0%
research report	51.0%	40.0%
written test	51.0%	30.0%

Recommended reading	Basic literature	Beug, H.J. 2004. Leitfaden der Pollenbestimmung für Mitteleuropa und angrenzende Gebiete. Verlag Dr. Friedrich Pfeil, München. Mycielska-Dowgiałło E., Rutkowski J. (red.), 2007, Badania cech teksturalnych osadów czwartorzędowych. SWPR, Warszawa. Ralska-Jasiewiczowa M., Latałowa M., Wasylikowa K., Tobolski K., Madeyska E., Wright H.E., Jr., Turner Ch. (red.) Late Glacial and Holocene History of Vegetation in Poland Based on Isopollen Maps. W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków, s. 327-336. Tobolski K., 2000, Przewodnik do oznaczania torfów i osadów jeziornych, PWN, W-wa. Zieliński T., 2014, Sedymentologia. Osady rzek i jezior. UAM, Poznań.
	Supplementary literature	Regional and palaeogeographic literature on the area from which the research material originates.
	eResources addresses	
Example issues/ example questions/ tasks being completed	What are multi-proxy reconstructions? How does core sampling affect the reliability of the interpretation of palaeoenvironmental reconstruction? List and characterize 3 hypotheses about the beginning of the Younger Dryas.	
Work placement	Not applicable	

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