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_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	Integration of knowledge from Earth and environmental sciences to explain and interpret interactions between processes and phenomena associated with environmental changes across different timescales.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
	[GFGMU2_U02] is able to precisely and appropriately use terminology in the field of physical geography and geoinformation in oral statements and written works	Correct use of terminology related to the reconstruction of various sedimentary environments in written communication.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written [SU5] implementation of a problem task
	[GFGMU2_K01] is able to behave appropriately in the workplace and in everyday life by critically evaluating information received in the light of their existing knowledge, recognising the importance of knowledge in solving cognitive and practical problems, and, when faced with difficulties, drawing on expert knowledge	Critical evaluation of the current state of knowledge on environmental change, and independent expansion and verification of this knowledge through analysis of scientific literature.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report [SK3] text preparation/written work
	[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	Understanding of the interdisciplinary approach in Earth and environmental sciences, and knowledge of qualitative and quantitative methods applied 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	Effective use of scientific literature in the field of reconstruction and interpretation of past environmental changes.	[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	Analysis and interpretation of paleoenvironmental data used for the reconstruction of past climate and environmental changes, and application of this knowledge to explain the origins and potential consequences of contemporary climate change and environmental crises.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
	[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	Understanding of the subject matter, major research directions, and conceptual framework of palaeogeography, as well as the practical applications of research on environmental change reconstruction.	[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			

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>oral presentation</td><td>51.0%</td><td>30.0%</td></tr>
<tr><td>research report</td><td>51.0%</td><td>40.0%</td></tr>
<tr><td>written test</td><td>51.0%</td><td>30.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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.</td></tr>
<tr><td>Supplementary literature</td><td>Regional and palaeogeographic literature on the area from which the research material originates.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">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.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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