University of Gdańsk

Subject card

Subject name and code	Palaeoecology with the elements of Archaeobotany, PG_00200210		
Field of study	Archaeology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor'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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit	Institute of Archaeology -> Faculty of History -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Joanna Święta-Musznicka	
	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	18.0	50

Subject objectives	To provide knowledge on research methods for reconstructing changes in the natural environment in the past, including bio-indicative methods used in the context of settlement studies. To provide knowledge on climate and vegetation changes in the Quaternary period (characterisation of the natural environment at the end of the last glaciation and in the Holocene and the role of settlement). To provide knowledge about the history of human use of plants in the past. To develop knowledge of the conditions for effective cooperation with natural scientists at archaeological sites.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[ARCHL3_W01] Knows and understands selected facts, objects and phenomena in archaeology, as well as theoretical approaches used to explain the relationships between them, and has structured general knowledge in the humanities	Knows and understands the chronology and periodisation of the Polish lands, as well as theories explaining the influence of climate change and vegetation changes on the development of settlement in Poland and Europe.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[ARCHL3_W06] Knows and understands at an advanced level the most important theories, research methods and tools of the archaeology workshop	Characterises the research methods and tools of the palaeoecologist and archaeobotanist's workshop to enable effective work on an archaeological site.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[ARCHL3_U04] Can take part in a debate – present and evaluate various opinions and positions and discuss them using correctly professional terminology in the field of archeology	Discusses with palaeoecologists and archaeobotanists the problems of environmental research on archaeological and natural sites.	[SU1] oral statement/conversation/ discussion
[ARCHL3_U08] Can independently plan and implement his/her own lifelong learning	Be able to formulate research problems independently in the context of collaboration with a palaeoecologist and archaeobotanist.	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written

Subject contents

An overview of palaeoecological methods. Principles of bioindication in natural environment reconstructions. Lithological description and physico-chemical analyses of sediments as a source of information on the past environment. Genetic and non-genetic classifications of sediments. Absolute dating. Basics of dendrochronology. Reconstructions of environmental change based on interdisciplinary studies. Climate and vegetation change in the late Vistulian and Holocene against the background of Iversen's theory of climatic-edaphic cycles. Record of human activity and the nature of the economy in pollen diagrams and palynological anthropogenic indicators. Natural conditions of prehistoric settlement. Anthropogenic changes of the environment under the influence of the activity of prehistoric cultures in Pomerania. Aims and methodology of archaeobotanical research. Tafonomic processes and types of fossilisation of plant remains. Reconstructions of elements of the economy based on palaeoecological and archaeobotanical data. Cultivated and wild- collected plants in the prehistoric and medieval economy. Archaeobotanical research in urban areas.

Prerequisites and co-requisites

Course pass: Elements of Earth Sciences in Archaeology.

Knowledge of earth sciences at high school level, knowledge of Quaternary stratigraphy, knowledge of the most important methods of absolute dating.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
oral exam	51.0%	100.0%

Recommended reading

Basic literature

Berglund B.E. 1986. Handbook of Holocene Palaeoecology and Palaeohydrology. Wiley & Sons, Chichester-New York

Dybova-Jachowicz S., Sadowska A. 2003. Palinologia. Instytut Botaniki im. W. Szafera PAN, Kraków.

Lityńska-Zając M., Wasylikowa K. 2005. Przewodnik do badań archeobotanicznych. Vademecum Geobotanicum. Sorus, Poznań.

Tobolski K. 2000. Przewodnik do oznaczania torfów i osadów jeziornych. PWN, Warszawa

	Supplementary literature	Makohonienko M., Makowiecki D., Kurnatowska Z. 2007. Studia interdyscyplinarne nad środowiskiem i kulturą człowieka. Środowisko-Człowiek-Cywilizacja 1. Ser. Stowarzyszenia Archeologii Środowiskowej, Wyd. Bogucki, Poznań. Birks H.J.B., Birks H.H. 1980. Quaternary Palaeoecology. E. Arnold, London. Jacomet S., Kreuz A. 1999. Archäobotanik. Aufgaben, Methoden und Ergebnisse vegetations- und agrargeschichtlicher Forschung, Eugen Ulmer, Stuttgart. Lindner L. 1992. Czwartorzęd. Osady, metody badań, stratygrafia. Wyd. PAE, Warszawa. Roberts N. 1998. The Holocene. An Environmental History. Blackwell, Oxford.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Bioindication in palaeoecological reconstructions - selected examples of bioindicators and their role in reconstructing environmental conditions. Division of the Holocene into periods, characteristics of climatic conditions, Bond cycles. Ways of fossilisation of macroscopic remains and their informative value in archaeobotanical research.. Impact of Neolithic cultures on the environment (pre- and post-settlement environmental conditions, scale of environmental transformation, farming, gathering, crops).	
Work placement	Not applicable	

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