University of Gdańsk

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | Palaeoecology with the elements of Archaeobotany, PG_00139786 | | |
| Field of study | Archaeology | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | 2026/2027 |
| Education level | Bachelor's studies | Subject group | Obligatory subject group 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<br>Polish |
| Semester of study | 5 | ECTS credits | 3.0 |
| 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 | 45.0 | 77 |

**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_K02] Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving the problem on his own in aspect of office analyses and field work | He is ready to recognise the knowledge of palaeoecologists and archaeobotanists and to consult experts when planning research and addressing questions about botanical materials. | [SK1] oral statement/conversation/ discussion<br>[SK4] test/exam - oral or written |
| [ARCHL3_W01] Knows and understands to an advanced level selected facts, objects and phenomena, as well as the methods and theories concerning them that explain the complex relationships between them, constituting basic 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<br>[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<br>[SW1] oral statement/ conversation/discussion |
| [ARCHL3_U07] Is able to cooperate with other people as part of team work (also of an interdisciplinary nature) both at the stage of fieldwork and development of results | Be able to undertake role-based teamwork. | [SU1] oral statement/conversation/ discussion<br>[SU5] implementation of a problem task |
| [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_K01] Is ready to critically evaluate his/her knowledge and received content | Be able to undertake a critique of data on basic palaeoecological and archaeobotanical information. | [SK1] oral statement/conversation/ discussion<br>[SK4] test/exam - oral or written |
| [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<br>[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.<br><br>Birks H.J.B., Birks H.H. 1980. Quaternary Palaeoecology. E. Arnold, London.<br><br>Jacomet S., Kreuz A. 1999. Archäobotanik. Aufgaben, Methoden und Ergebnisse vegetations- und agrargeschichtlicher Forschung, Eugen Ulmer, Stuttgart.<br><br>Lindner L. 1992. Czwartorzęd. Osady, metody badań, stratygrafia. Wyd. PAE, Warszawa.<br><br>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.<br><br>Division of the Holocene into periods, characteristics of climatic conditions, Bond cycles.<br><br>Ways of fossilisation of macroscopic remains and their informative value in archaeobotanical research..<br><br>Impact of Neolithic cultures on the environment (pre- and post-settlement environmental conditions, scale of environmental transformation, farming, gathering, crops). | |
| Work placement | Not applicable | |

Document generated electronically. Does not require a seal or signature.