

Subject card

Subject name and code	Principles of taphonomy, PG_00154727						
Field of study	Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	postgraduate studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	2		ECTS credits		1.0		
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Jacek Szwedo				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	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		8.0	25
Subject objectives	1. To know and understand the processes leading to the formation of fossils. 2. To know and understand the laws and principles of preservation of biological materials in sediments and fossil resins. 3. To become familiar with the types of preservation of fossil materials and the types of deposits containing the remains of organisms. 4. to learn about traditional and modern methods of analysing fossil materials for palaeoenvironmental, palaeoecological and evolutionary reconstructions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMU2_W01] the graduate knows and understands natural phenomena and processes at different levels of complexity	Recognises and characterises the main modes of behaviour of the remains of organisms in fossil material Recognises the behavioural patterns of fossil material and can relate these to biotic and environmental changes at the site of deposition Correctly identify and interpret observed changes occurring during biostratigraphic processes Knows and understands the significance of diagenetic changes and can correctly interpret them	[SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report [SW3] text preparation/written work [SW5] implementation of a problem task
	[BIOLMU2_K05] the graduate is prepared to use recognised sources of scientific and popular information in the biological sciences to further his or her knowledge	Understands the need to use recognised sources of scientific and popular science in the biological and earth sciences to improve their knowledge	[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report [SK3] text preparation/written work [SK5] implementation of a problem task
	[BIOLMU2_U03] the graduate can critically analyse and select biological information, especially from electronic sources	Demonstrates the ability to critically analyse and select biological information, especially from internet and electronic sources	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU3] text preparation/written work [SU5] implementation of a problem task
	[BIOLMU2_W04] the graduate has an in-depth knowledge of the chosen specialisation in the biological sciences	Is familiar with palaeontological research methods and is able to interpret their results	[SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report [SW3] text preparation/written work [SW5] implementation of a problem task
	[BIOLMU2_U07] the graduate is able to critically confront biological information from a variety of sources and, on this basis, draw valid conclusions	Critically confronts biological information from a variety of sources and, on this basis, draws reasoned conclusions on this basis	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU3] text preparation/written work [SU5] implementation of a problem task
Subject contents	1 To know and understand the processes leading to the formation of fossils.2 To know and understand the laws and principles of preservation of biological materials in sediments and fossil resins.To become familiar with the types of preservation of fossil materials and the types of deposits containing the remains of organisms.4. to learn about traditional and modern methods of analysing fossil materials for palaeoenvironmental, palaeoecological and evolutionary reconstructions.		
Prerequisites and co-requisites	A. Formal requirementsBiology, botany, zoology, taxonomy, ecology, chemistry B. PrerequisitesBasic knowledge of biology, zoology, ecology and classification of organisms, basic knowledge of chemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Completion of a course work - project or presentation	51.0%	100.0%

Recommended reading	Basic literature	Allison P.A., Bottjer D.J. (eds.) 2011. Taphonomy. Process and bias through time (Topics in Geobiology 32). Springer, Berlin. Bocheński Z., Lasota-Moskalewska A., Bocheński Z., Tomek T. 2000. Podstawy archeozoologii. Ptaki. Wydawnictwo Naukowe PWN. Warszawa. Briggs D.E.G., Crowther P.R. (eds.) 2001. Palaeobiology II. Blackwell Science, Ltd., Oxford. Demers-Potvin A.V., Szwedo J., Paragnani C.P., Larsson H.C.E. 2020. First North American occurrence of hairy cicadas (Cicadomorpha: Tettigarctidae), discovered in a Late Cretaceous (Cenomanian) exposure from Labrador, Canada. <i>Acta Palaeontologica Polonica</i> 65 (1): 85-98. Gee C.T., McCoy V.E., Sander P.M. (eds.) 2021. Fossilization. Understanding the material nature of ancient plants and animals. Johns Hopkins University Press, Baltimore. Lasota-Moskalewska A. 2008. Archeozoologia. Ssaki. Wydawnictwo Uniwersytetu Warszawskiego. Warszawa. Martin R.E. 1999. Taphonomy. A process approach (Cambridge Paleobiology Series 4). Cambridge University Press, Cambridge. Moskalewska-Lasota A. 1997. Podstawy archeozoologii. Szczątki ssaków. Wydawnictwo Naukowe PWN, Warszawa. Radwańska U. 2007. Podstawy paleontologii. Wydawnictwo Uniwersytetu Warszawskiego. Warszawa. Rasnitsyn A.P., Quicke D.L.J. (eds.) 2002. History of insects. Kluwer Academic Publisher, Dordrecht. Raup D.M., Stanley S.M. 1984. Podstawy paleontologii. PWN. Warszawa. Sutton M.D., Rahman I.A., Garwood R.J. 2014. Techniques for virtual palaeontology. Wiley-Blackwell, Oxford. Szadziewski R., Szwedo J., Sontag E. 2018. Fauna lasu bursztynowego / Fauna of the amber forest. pp. 3875, 216217. In: Szadziewski R., Pytlos R., Szwedo J. (eds.), Bursztyn bałtycki skarb Zatoki Gdańskiej / Baltic amber treasure of the Bay of Gdańsk. Związek Miast i Gmin Morskich, Gdańsk. Szwedo J., Kania I. 2015. Rekonstrukcje klimatyczne na podstawie inkluzji / Climatic reconstructions based on inclusions. Amber news review 2014/2015, World Amber Council, Gdańsk, Poland, 2015, pp. 621. Mayors Office for City Promotion, City Hall of Gdańsk. Szwedo J., Stroiński A. 2017. Whos that girl? The singular Tropiduchidae planthopper from the Eocene Baltic amber (Hemiptera: Fulgoromorpha). <i>Palaeontologia Electronica</i> 20.3.60A: 120. Zherikhin V.V., Ponomarenko A.G., Rasnitsyn A.P. 2008. Vvendenie v paleontomologiyu. KMK, Moskva.
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	Supplementary literature	Behrensmeyer A.K., Denys C. & Brugal, J.P. 2018. What is taphonomy and what is not? Historical Biology, 30(6), 718719. https://doi.org/10.1080/08912963.2018.1432919 Benton M.J. & Harper DAT. 2020. Introduction to paleobiology and the fossil record. 2nd edition. Wiley-Blackwell., Chichester. Blasco R. 2022. Quaternary taphonomy: understanding the past through traces. Sci Rep 12, 7112. https://doi.org/10.1038/s41598-022-10473-9 Henke W. & Tattersall I. 2007. Handbook of paleoanthropology. Vol I: Principles, methods and approaches. Springer-Verlag Berlin Heidelberg. Reitner J., Yang Q., Wang Y., Reich M., Luo C., Roden V.J. & Stegemann T.R. 2013. Palaeobiology and Geobiology of Fossil Lagerstätten through Earth History. Göttingen University Press Sutton M.D., Rahman I.A. & Garwood R.J. 2014. Techniques for Virtual Palaeontology. Wiley-Blackwell: Oxford, UK.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Decay and fossilisation of organic matter Kinds of fossilisation Taphonomic series Konzentrat- i Konservat-Lagerstätten	
Work placement	Not applicable	

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