

Subject card

Subject name and code	, PG_00121013						
Field of study	Geology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		English		
Semester of study	5		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 Karol Tylmann				
	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		0.0		0.0	15
Subject objectives	Getting knowledge about the current possibilities of using cosmogenic nuclides in geological research.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		Has a knowledge and understanding of the terminology appropriate for the use of cosmogenic isotopes in Earth sciences.		[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report		
	[GEOLL3_W04] knows and understands phenomena and processes occurring in the past and today in the interior of the Earth and on its surface, defines the methods of how to study them		Knows and understands the phenomena and processes occurring in the past and present in the interior of the Earth and on its surface, which can be analyzed using cosmogenic isotopes, defines methods of their study.		[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report		
	[GEOLL3_U02] has the skill of analytical and synthetic way of reasoning leading to correct inference based on the results obtained or the facts presented		Has the ability to use analytical and synthetic reasoning leading to correct conclusions based on the results of isotopic analyses.		[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report		
	[GEOLL3_K03] is willing to exercise caution and criticism in receiving information from scientific literature, the Internet and other media related to natural sciences		Be cautious and critical in accepting information from the scientific literature, the Internet and other media relating to isotopic research.		[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report		
	[GEOLL3_U03] is able to use source information in Polish and English, including archival and electronic databases, in the field of geological issues		Can use source information, in Polish and English, including archival and electronic databases, in the field of cosmogenic isotopes.		[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report		

Subject contents	Potential and limits of the application of cosmogenic nuclides in geology.		
	Examples of the cosmogenic nuclides applications in geology.		
	Computer and statistical tools used in analysis of the cosmogenic nuclides results.		
	Processing of given results of exposure dating with cosmogenic nuclides.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Oral presentation	51.0%	70.0%
	Attendance and activity in class	51.0%	30.0%
Recommended reading	Basic literature	Dunai T. 2010. Cosmogenic nuclides. Principles, Concepts and Applications in the Earth Surface Sciences. Cambridge University Press, 187 pp.	
	Supplementary literature	Gosse J.C., Philips F.M., 2001, Terrestrial in situ cosmogenic nuclides: theory and application. Quaternary Science Reviews 20, 1475-1560.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Cosmogenic dating of moraines in Scotland		
	Surface exposure dating of rock-fall in Tatra		
Work placement	Not applicable		

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