

Subject card

Subject name and code	, PG_00120919						
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			Polish	
Semester of study	5		ECTS credits			1.0	
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		1.0		8.0	24
Subject objectives	Getting knowledge about mechanisms influencing the dynamics and evolution of past/present glaciers and ice sheets in the context of climate changes taking place in the geological history of the Earth and today.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[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		Have the ability to use analytical and synthetic reasoning leading to correct conclusions about the relationship between climate and the evolution of glaciers and ice sheets.			[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report	
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		Knows and understands the terminology appropriate for glacial processes and related climatic conditions at an advanced level.			[SW1] oral statement/conversation/discussion [SW2] 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 glacial processes and climate change.			[SK1] oral statement/conversation/discussion [SK2] 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 today on the Earth's surface, related to glaciers and ice sheets, defines methods of studying them at an advanced level.			[SW1] oral statement/conversation/discussion [SW2] 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 glacial processes and climate change.			[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report	

Subject contents	Conditions for the formation of glacial ice and the mechanics of its movement.Classification of glaciers and ice sheets.Processes of glacial erosion, transport and accumulation (ice world).Processes of fluvioglacial erosion, transport and accumulation (water world).History of glaciations on Earth.Present climate change and the dynamics of glaciers and ice sheets.		
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	Benn D.I., Evans D.J.A., 2010. Glaciers and Glaciation. Hodder Arnold Publication, 802 pp. Bennett M.M., Glasser N.F. (Eds.), 2009. Glacial Geology: Ice Sheets and Landforms. Wiley-Blackwell, 379 pp. Knight P.G. (Ed.) 2006. Glacier Science and Environmental Change. Wiley-Blackwell, 544 pp.	
	Supplementary literature	Evans D.J.A., 2018. Glaciation: A Very Short Introduction. Oxford University Press, 200 pp. Woodward J., 2014. The Ice Age: A Very Short Introduction. Oxford University Press, 163 pp. McDougall D., 2008. Zamarznięta Ziemia. Historia dawnych i przyszłych epok lodowcowych. Prószyński Media, 213 pp.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Dynamics of glaciers fluctuations in Norway Subglacial deformation World inventory of glaciers		
Work placement	Not applicable		

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