

**Subject card**

<b>Subject name and code</b>	Contemporary problems of environmental geography, PG_00192989						
<b>Field of study</b>	Geology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2028/2029		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study Optional subject group		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	3	<b>Language of instruction</b>			English		
<b>Semester of study</b>	5	<b>ECTS credits</b>			3.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Laboratory of Palaeoenvironmental Research -> Department of Geomorphology and Quaternary Geology -> Faculty of Oceanography and Geography -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr Maurycy Żarczyński				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	30		2.0		43.0	75
<b>Subject objectives</b>	Presentation of selected issues and research directions in contemporary physical geography, specifically: past and contemporary global environmental changes forcing factors, mechanisms, processes and future consequences.						
<b>Learning outcomes</b>	<b>Course outcome</b>		<b>Subject outcome</b>		<b>Method of verification</b>		
	[GEOLL3_W03] knows and identifies paleontological, mineralogical, petrographic and structural objects using appropriate methods		Knows the selected palaeontological and mineralogical objects used in palaeogeographical studies.		[SW4] test/exam - oral or written		
	[GEOLL3_U08] is able to write, report and properly illustrate scientific work in Polish and English on the basis of available sources on a selected topic in the field of geological issues		Can illustrate a planetary scale process.		[SU4] test/exam - oral or written		
	[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		Can identify the most substantial contemporary problems of the global environment.		[SU4] test/exam - oral or written		

Subject contents	<ol style="list-style-type: none"> <li>1. Past global changes: international research programmes and scientific organizations;</li> <li>2. Ocean scientific drilling: investigating the seafloor through scientific ocean drilling;</li> <li>3. Geological and cryosphere archives: studying past global climate changes using ice cores;</li> <li>4. Continental scientific drilling: examining environmental history recorded in terrestrial sediment archives;</li> <li>5. Human-environment interactions in the past: addressing erosion, landscape evolution, and pollution;</li> <li>6. Monitoring and Modeling the water cycle: assessing watershed resources and aquifer layers;</li> <li>7. Addressing Water scarcity and quality: collecting and analyzing hydrological data;</li> <li>8. Ecology and hydrology: balancing ecohydrological structure with sustainable development;</li> <li>9. International climate dialogue: considering political, financial, and organizational aspects;</li> <li>10. Climate Change and Natural/Anthropogenic Ecosystems: observing and forecasting changes and consequences;</li> <li>11. Extreme climate, weather, and hydrologic events: implementing early warning systems;</li> <li>12. Management efforts: developing mitigation and adaptation actions for natural and anthropogenic ecosystems.</li> </ol>		
Prerequisites and co-requisites	B+ efficiency in English		
Assessment methods and criteria	Subject passing criteria		Passing threshold
	Written test	51.0%	Percentage of the final grade 100.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• Fischer H., Kull C., Kiefer T., Ice core science, PAGES news, 14(1), 1-44, <a href="https://doi.org/10.22498/pages.14.1">https://doi.org/10.22498/pages.14.1</a>, 2006</li> <li>• Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5°C (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2018</li> <li>• Intergovernmental Panel on Climate Change, Special Report: the Ocean and Cryosphere in a Changing Climate (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2019</li> <li>• Intergovernmental Panel on Climate Change, Special Report: Climate Change and Land (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2019</li> <li>• International Continental Scientific Drilling Program, ICDP Science Plan 2020-2030, <a href="https://www.icdp-online.org/media/icdp-science-plan">https://www.icdp-online.org/media/icdp-science-plan</a>, 2020</li> <li>• Mann M.E., Nowa Wojna Klimatyczna - Jak ocalić naszą planetę?, Wydawnictwo Dolnośląskie, 2021</li> <li>• Popkiewicz M., Kardaś A., Malinowski S., Nauka o klimacie, Wydawnictwo Sonia Draga, 2019</li> <li>• Koppers A.A.P., Coggon R., ed., Exploring Earth by Scientific Ocean Drilling: 2050 Science Framework, 124 pp., <a href="https://doi.org/10.6075/J0W66J9H">https://doi.org/10.6075/J0W66J9H</a>, 2020</li> </ul>	
	Supplementary literature	<ul style="list-style-type: none"> <li>• Intergovernmental Panel on Climate Change, Sixth Assessment Report (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2021</li> <li>• Intergovernmental Panel on Climate Change, Special Report: Climate Change and Land (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2019</li> <li>• Intergovernmental Panel on Climate Change, Sixth Assessment Report (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2021</li> <li>• Intergovernmental Panel on Climate Change, Special Report: Climate Change and Land (Summary for Policymakers and chapters), <a href="http://www.ipcc.ch">www.ipcc.ch</a>, 2019</li> </ul>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Introduce and describe the contribution of the main geological process co-responsible for the exit of the Earth from the "Snowball Earth" era;</li> <li>2. Outline, illustrate and describe the three main factors responsible for climate change in Milanković cycles.</li> </ol>		
Work placement	Not applicable		

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