

**Subject card**

Subject name and code	Petrography - lecture, PG_00091116						
Field of study	Geology						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			2.0		
Learning profile	academic	Assessment form			exam		
Conducting unit	Laboratory of Marine Geology -> Department of Chemical Oceanography and Marine Geology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Agnieszka Marcinowska				
	Teachers		dr Agnieszka Marcinowska				
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		5.0		15.0	50
Subject objectives	Understand the mechanisms of rock-forming processes. To know the criteria for classifying rocks.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[GEOLL3_U01] is able to apply basic measurement and analytical techniques in the field and in the laboratory, plans to conduct research and measurements	Knows how to use a petrographic microscope to identify minerals and rocks. Knows how to plan studies for different types of rocks.			[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU4] test/exam - oral or written [SU6] demonstration of practical skills		
	[GEOLL3_W03] knows and identifies paleontological, mineralogical, petrographic and structural objects using appropriate methods	Knows the optical characteristics of minerals and the principles of using a petrographic microscope. Knows the principles of rock classification.			[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW3] text preparation/written work		
	[GEOLL3_U06] is able to identify geological objects and combine them with geological processes and anthropogenic environmental transformations	Can how to identify minerals and rocks in microscopic images and link them to the relevant rock-forming processes.			[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU4] test/exam - oral or written [SU6] demonstration of practical skills		
	[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 rock-forming processes occurring in the interior and on the surface of the Earth in the past and today. Knows the research methods used in petrology.			[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW3] text preparation/written work		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences	Knows and understands terminology specific to petrography.			[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW3] text preparation/written work		

Subject contents	1. Concepts and definitions in petrography. 2. Relationship of petrography with other disciplines of natural sciences. 3. Genesis, characteristics and classifications of magmatic rocks in relation to rock-forming processes. 4. Genesis, characteristics and classifications of sedimentary rocks in relation to rock-forming processes. 5. Genesis, characteristics and classifications of metamorphic rocks in relation to rock-forming processes.														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Subject passing criteria</th> <th style="width:33%;">Passing threshold</th> <th style="width:34%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>textual elaboration</td> <td>51.0%</td> <td>5.0%</td> </tr> <tr> <td>oral statement</td> <td>51.0%</td> <td>10.0%</td> </tr> <tr> <td>written/oral exam</td> <td>51.0%</td> <td>85.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	textual elaboration	51.0%	5.0%	oral statement	51.0%	10.0%	written/oral exam	51.0%	85.0%
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Recommended reading	Basic literature	Maneck A., Muszyński M. (red.), 2008. Przewodnik do petrografii, Uczelniane Wydawnictwa Naukowo-Dydaktyczne AGH, Kraków Penkala T., 1971. Optyka kryształów, Wyd. Naukowe PWN, Warszawa Borkowska M., Smulikowski K., 1973. Minerale skałotwórcze. Wyd. Geologiczne, Warszawa Barker A.J., 2014. A Key for Identification of Rock-forming Minerals in Thin-Section, CRC Press/Balkema Frost R.B., Frost C.D., 2014. Essentials of Igneous and Metamorphic Petrology, Cambridge University Press. Boggs S., JR., 2009. Petrology of Sedimentary Rocks, Cambridge University Press Klein C., Philpotts A.R., 2012. Earth Materials, Cambridge University Press													
	Supplementary literature	MacKenzie W.S., Adams A.E., Brodie K.H. 2017. Rocks and Minerals in Thin Section., CRC Press/Balkema Nesse W.D., 1991. Introduction to Optical Mineralogy, Oxford University Press Gill R., 2010. Igneous Rocks and Processes, a Practical Guide, A John Wiley & Sons, Ltd., Publication													
	eResources addresses	Basic <a href="https://open.agh.edu.pl/data/kursy/course/view.php?id=20#section-0">https://open.agh.edu.pl/data/kursy/course/view.php?id=20#section-0</a> - Description of rock-forming minerals in thin section. <a href="http://www.alexstrekeisen.it/english/index.php">http://www.alexstrekeisen.it/english/index.php</a> - Petrology teaching materials with photos of minerals and rocks in microscopic images.													
Example issues/ example questions/ tasks being completed	Rock-forming processes, classifications of magmatic, sedimentary and metamorphic rocks.														
Work placement	Not applicable														

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