

Subject card

Subject name and code	Petrography - exercises, PG_00091117						
Field of study	Geology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
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		credit		
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 Marciniowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		15.0		15.0	60
Subject objectives	Acquire the ability to identify and describe the main rock-forming minerals. Acquire the ability to identify magmatic, sedimentary and metamorphic rocks by microscopic studies.						
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		Can use a petrographic microscope to identify minerals and rocks. Knows how to plan studies for different types of rocks.		[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written [SU6] demonstration of practical skills [SU8] observation of student's independent or team 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 [SU8] observation of student's independent or team work		
	[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		
	[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		

Subject contents	1. Optical features of rock-forming minerals and methods of their microscopic identification 2. Microscopic identification of magmatic rocks and their classification 3. Microscopic identification of sedimentary rocks and their classification 4. Microscopic identification of metamorphic rocks and their classification		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	oral statement/conversation/discussion	51.0%	5.0%
	activity during lessons, observation of a student's independent or team work	51.0%	10.0%
	theoretical and practical test	51.0%	85.0%
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		
	Example issues/ example questions/ tasks being completed	Optical characteristics of rock-forming minerals. Classifications of magmatic, sedimentary and metamorphic rocks. Microscopic description of rocks.	
Work placement	Not applicable		

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