University of Gdańsk

Subject card

Subject name and code	Petrography - exercises, PG_00091117		
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	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 Marcinowska	
	Teachers	dr Agnieszka Marcinowska	

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_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 [SW2] presentation/project/paper/ report [SW3] text preparation/written work [SW5] implementation of a problem task
[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 [SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU4] test/exam - oral or written [SU5] implementation of a problem task [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 [SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU4] test/exam - oral or written [SU5] implementation of a problem task [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 [SW2] presentation/project/paper/ report [SW3] text preparation/written work [SW5] implementation of a problem task

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
activity during lessons	51.0%	20.0%
practical test	51.0%	80.0%

Recommended reading

Basic literature	Manecki 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. Minerały 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 http://www.alexstrekeisen.it/english/index.php - Petrology teaching materials with photos of minerals and rocks in microscopic images.

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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