University of Gdańsk

Subject card

Subject name and code	Mineralogy with elements of crystalography - laboratory classes, PG_00193067		
Field of study	Geology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
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		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	45.0	0.0	0.0	45

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	45	5.0	25.0	75

Subject objectives

To become familiar with the main crystallographic rules and the principles of their application. To acquire the ability to macroscopically identify the most important minerals. To master the terminology used in crystallography and mineralogy.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences	Knows and understands the terminology of crystallography and mineralogy.	[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 and identifies minerals, knows how to determine their basic physical characteristics. Knows research methods to identify minerals.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[GEOLL3_U06] is able to identify geological objects and combine them with geological processes and anthropogenic environmental transformations	Can identify and name minerals, indicate their chemical composition, determine their crystallographic form, possible paragenesis. Can assign specific minerals or mineral paragenesis to given mineral-forming environments.	[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_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 basic research tools for macroscopic identification of minerals. Can perform simple experiments to identify minerals. Plans research work according to the rules.	[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

Subject contents	1. Elements of crystal symmetry. 2. Derivation of 32 crystallographic classes, identification of crystallographic characters. 3. Macroscopic features of minerals (e.g. habit, color, crack, hardness). 4. Classification and nomenclature of minerals 5. Macroscopic recognition of minerals (based on physical features). 6. Mineral-forming environments, mineral paragenesis 7. Used of minerals
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
observation of a student's independent or team work	51.0%	5.0%
oral statement/conversation/ discussion	51.0%	5.0%
demonstration of practical skills, mineral identification	51.0%	45.0%
test/exam - oral or written	51.0%	45.0%

Recommended reading

Basic literature	Parafiniuk J., 2024. Atlas minerałów, Multico, Warszawa Szełęg E., 2023. Minerały i skały Polski, Multico, Warszawa Żaba J., Żaba I.V., 2023. Naturalne kamienie szlachetne i ozdobne, Wydawnictwo SBM Żaba J., 2014. Ilustrowana encyklopedia skał i minerałów, Wydawnictwa Videograff S.A. Bolewski A., Kubisz J., Manecki A., Żabiński W., 1990. Mineralogia ogólna, Wyd. Geologiczne, Warszawa Bolewski A., Manecki A., 1993. Mineralogia szczegółowa, Wydawnictwo Polskie Agencji Ekologicznej Penkala T., 1961. Elementy mineralogii i krystalografii, Wyd. Naukowe PWN, Warszawa Klein C., Philpotts A.R., 2012. Earth Materials, Cambridge University Press Nesse W.D., 2000. Introduction to Mineralogy, Oxford University Press
Supplementary literature	Klein C., Philpotts A.R., 2012. Earth Materials, Cambridge University Press Nesse W.D., 2000. Introduction to Mineralogy, Oxford University Press Parafiniuk J., 2004. Minerały systematyczny katalog 2004, TG Spirifer, Warszawa Manecki A., 2004. Encyklopedia minerałów. Minerały Ziemi i materii kosmicznej, Wyd. AGH, Kraków
eResources addresses	

Example issues/ example questions/ tasks being completed	principles for deriving symmetry classes, physical characteristics of minerals, mineral-forming environments and their characteristic paragenesis, classification of minerals, structure of minerals, properties and uses of minerals
Work placement	Not applicable

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