

Subject card

Subject name and code	Physics - laboratory exercises, PG_00091098						
Field of study	Geology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group				
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		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Geophysics -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Aleksandra Malecha-Łysakowska				
	Teachers		mgr Aleksandra Malecha-Łysakowska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15		5.0		9.0	29
Subject objectives	To provide the knowledge and develop the skills necessary to: - use the apparatus of higher mathematics to describe physical phenomena and to interpret the mathematical solutions obtained physically; - to make observations of nature and to collect, analyse and interpret data.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GEOLL3_W08] knows the basic principles of occupational health and safety, legal regulations conditioning geological and engineering activities		knows the basic principles of health and safety in the physics laboratory		[SW2] presentation/project/paper/report		
	[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 apply basic measurement and analysis techniques used in physics		[SU8] observation of student's independent or team work		
	[GEOLL3_K05] is willing to comply with the principles of occupational safety and health, takes care of specialized equipment entrusted to them, is aware of the risk connected with the performed work		Willing to comply with health and safety regulations, take care of the special equipment entrusted to him/her, aware of the risks of the work he/she carries out. work		[SK6] demonstration of practical skills [SK7] entries and opinions in the internship diary		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		knows and understands physical terminology		[SW1] oral statement/conversation/discussion		
Subject contents	Laboratory measurements and their precision. Statistical treatment of data. Laboratory exercises on all topics covered in lectures						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Arithmetic mean of partial scores		51.0%		100.0%		

Recommended reading	Basic literature	Halliday D., Resnick R., Walker J., 2007. Podstawy fizyki - tom 1. Mechanika. Wyd. Naukowe PWN, Warszawa Halliday D., Resnick R., Walker J., 2007. Podstawy fizyki - tom 2. Mechanika, drgania i fale, termodynamika, Wyd. Naukowe PWN, Warszawa Halliday D., Resnick R., Walker J., 2007. Podstawy fizyki - tom 3. Elektryczność i magnetyzm, Wyd. Naukowe PWN, Warszawa Halliday D., Resnick R., Walker J., 2007. Podstawy fizyki - tom 4. Fale elektromagnetyczne, optyka i teoria względności, Wyd. Naukowe PWN, Warszawa Halliday D., Resnick R., Walker J., 2007. Podstawy fizyki - tom 5. Fizyka współczesna, Wyd. Naukowe PWN, Warszawa Orear J., 2008. Fizyka, t. 1 i 2, Wyd. WNT, Warszawa
	Supplementary literature	Walker J., 2011. Podstawy fizyki. Zbiór zadań, Wyd. Naukowe PWN, Warszawa Hewitt P. G., 2010. Fizyka wokół nas, Wyd. Naukowe PWN, Warszawa Resnick R., Halliday D., 1999. Fizyka (cz. 1 i 2), Wyd. Naukowe PWN, Warszawa
	eResources addresses	
Example issues/ example questions/ tasks being completed	Dynamics: 1. coefficient of friction; 2. mathematical pendulum. Heat: 3. specific heat; 4. the time constant of a thermometer. Selected macroscopic properties of matter: 5. speed of sound; 6. gas constant.	
Work placement	Not applicable	

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