

Subject card

Subject name and code	Geophysics - lecture, PG_00091143						
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	3		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Geophysics -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Jarosław Tęgowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	0.0	0.0	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		12.0		15.0	72
Subject objectives	To learn and understand the mechanisms of physical phenomena occurring in the geosphere and the geophysical methods used for geological research.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GEOLL3_K03] is willing to exercise caution and criticism in receiving information from scientific literature, the Internet and other media related to natural sciences		knows and understands the terminology specific to geophysics		[SK4] test/exam - oral or written		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		knows and understands basic geophysical phenomena		[SW4] test/exam - oral or written		
	[GEOLL3_W01] knows and understands the basic natural phenomena and explains their course in relation to geological processes		is ready to be cautious and critical in receiving information from scientific literature, the Internet and other media relating to geophysics		[SW4] test/exam - oral or written		
	[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 phenomena and processes occurring in the past and in the past and contemporary in the Earth interior and on its surface, defines geophysical methods of their study		[SW4] test/exam - oral or written		
Subject contents	The role and importance of Geophysics in Earth Sciences. The origin and structure of the Universe and Solar System. Thermology of the Earth, temperature of the Earth's crust, thermal relations in the Earth's interior. Earth's gravitational field, gravimetry, isostasy. Seismic and seismoacoustic methods in the study of the Earth's crust and lithosphere, reflection seismic, refraction seismic, methods of seismoacoustic methods used to study the surface and layered structure of the seabed. Earth's magnetic field, magnetometry, magnetostratigraphy, palaeomagnetism.						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	51.0%	100.0%
Recommended reading	Basic literature	Literature required for final course credit (passing the exam): Lowrie W., 2007. Fundamentals of Geophysics, Wyd. Cambridge University Press Fajkiewicz Z., (red.), 1972. Zarys geofizyki stosowanej, Wyd. Geologiczne, Warszawa Stenzel P., Szymanko J., 1973. Metody geofizyczne w badaniach hydrologicznych i geologiczno-inżynierskich, Wyd. Geologiczne, Warszawa A.2. studied independently by the student Reynolds J.M., 1997. An Introduction to Applied and Environmental Geophysics, Wiley & Sons Telford W.M., Geldart L.P., Sheriff R.E., 1990. Applied Geophysics, Cambridge Univ. Press Journal of Geophysical Research, The Official Magazine of the American Geophysical Union, http://www.agu.org/journals/jgr/ B. Complementary literature	
	Supplementary literature	Resnick R., Halliday D., 1980. Fizyka dla studentów nauk przyrodniczych i technicznych. Tom I, II. Wydanie VI, Wyd. Na-ukowe PWN, Warszawa Mortimer Z., 2004. Zarys fizyki Ziemi, Uczelniane Wydawnictwa Naukowo-Dydaktyczne, Kraków	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	The role and importance of Geophysics in Earth sciences. The origin and structure of the Universe and the Solar System. Thermology of the Earth, temperature of the Earth's crust, thermal relations in the Earth's interior. Earth's gravitational field, gravimetry, isostasy. Seismic and seismoacoustic methods in the study of the Earth's crust and lithosphere, reflection seismic, refraction seismic, methods of seismoacoustic methods used to study the surface and layered structure of the seabed. Earth's magnetic field, magnetometry, magnetostratigraphy, palaeomagnetism.	
Work placement	Not applicable		

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