University of Gdańsk

Subject card

Subject name and code	Geophysics - lecture, PG_00191273		
Field of study	Geology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
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	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	1.0	29.0	75

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_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
[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_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

<table>
<tr><td>Subject contents</td><td colspan="3">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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>exam</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Literature required for final course credit (passing the exam):
Lowrie W., 2007. Fundamentals of Geophysics, Wyd. Cambridge University Press
Fajklewicz 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</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">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</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">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.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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