University of Gdańsk

Subject card

Subject name and code	The basics of drilling - laboratory classes, PG_00193041						
Field of study	Geology						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2028/2029			
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	3		Language of instruction	Polish			
Semester of study	5		ECTS credits	2.0			
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	dr Robert Sokołowski					
	Teachers						
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		1.0		34.0	50
Subject objectives	Understanding of drilling documentation and geological-technical design of a borehole. Knowledge of the main trends in the development of drilling techniques, aspects of environmental protection, prevention of accidents in the drilling process.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GEOLL3_K01] is willing to plan and implement, individually or as a team, the next stages of the entrusted task, take responsibility for its results, effectively cooperate in the team by performing various roles in it	Can individually and in a group, plan and carry out successive stages of drilling work, take responsibility for its results and interact effectively in a team with different roles	[SK2] 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 analytical techniques during drilling operations, plan research and measurements	[SU2] presentation/project/paper/ report
[GEOLL3_U04] is able to use specialized computer software and mathematical and statistical methods in the analysis of geological data	Be able to use specialised computer software and mathematical and statistical methods in the analysis of drilling data, including geophysical data	[SU2] presentation/project/paper/ report
[GEOLL3_U10] is able to work individually and cooperate in laboratory and field groups performing various functions in them and performing various tasks	Able to work individually and collaboratively in a group to carry out geological drilling projects and develop their results by performing a variety of functions and tasks	[SU2] presentation/project/paper/ report
[GEOLL3_W08] knows the basic principles of occupational health and safety, legal regulations conditioning geological and engineering activities	Knows the basic principles of occupational health and safety when supervising and directing drilling operations	[SW2] presentation/project/paper/ report
[GEOLL3_W06] knows statistical and IT tools as well as the principles of preparing engineering and geological documentation and cartographic materials	Knows and identifies the statistical and IT tools and principles for compiling geological documentation for drilling purposes	[SW2] presentation/project/paper/ report

Subject contents

Methodology for drilling projects
Selection of drilling, drilling mud and completion technology
Hydrogeological and geothermal drilling
Health and safety and working methodology of the geologist at the drilling site
Design of borehole operations

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Course work for a grade	51.0%	100.0%

Recommended reading

Basic literature	Wojnar K., 1993. Wiertnictwo. technika i technologia. PWN, Kraków. Szostak L., 1989. Wiertnictwo . Wydawnictwa geologiczne. Bielewicz D., 2009. Płyny wiertnicze. UWND AGH. Kraków. Gonet A., Stryczek S., Rzyczniak M., 2004. Projektowanie otworów wiertniczych. Zadania z rozwiązaniami. UWND AGH. Kraków. Gonet A., Macuda J., 1995. Wiertnictwo hydrogeologiczne. Wydawnictwo AGH. Kraków. Gonet A., Zięba A., Wójcik M., Pawlikowska J., 2007. Wiercenia rdzeniowe. UWND AGH. Kraków. Stryczek S.,Gonet A., Rzyczniak M., 2017. Projektowanie głębokich otworów wiertniczych. Wydawnictwa AGH. Kraków.
Supplementary literature	Stryczek S., Gonet A., Rzyczniak M., 2018. Technologia cieczy wiertniczych. AGH. Wydawnictwa AGH. Kraków. Szostak Ł., Chrząszcz W., Wiśniowski R., 1996. Narzędzia wiercące. Wydawnictwa AGH. Kraków
eResources addresses	

Example issues/ example questions/ tasks being completed

Development of a mapping drilling project

Work placement

Not applicable

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