GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Engineering Geology , PG_00044308		
Field of study	Civil Engineering		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geotechnics, Geology and Marine Civil Engineering -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Małgorzata Pruszkowska-Caceres	
	Teachers		

Lesson types and methods of instruction							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	10.0	0.0	0.0	20
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie:						

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	20	5.0	25.0	50

Subject objectives	Recognition of subsoil structure and hydrogeological conditions for the purpose of foundation conditions; tool for subsoil structure recognition; the influence of geological processes on geotechnical parameters; geological law

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U14] is able to plan and to interpret the geotechnical investigatons, to analyse the foundation stability; can design direct and deep foundations in complex soil conditions for complcated statical and dynamical loads	Student gets aquinted with geological maps, learns about soil and rocks classification, interprets field work for gaining geotechnical parameters; arranges geotechnical data and assesses foundation conditions	[SU2] Assessment of ability to analyse information
	[K7_W14] knows and applies building codes and obeys the Construction Law; has knowledge on environmetal impact of investment realisation	Student attains basic knowledge on geotechnical and geological engineering documentations principles; student knows how to use current methods of subsoil study.	[SW1] Assessment of factual knowledge
	[K7_K02] Rocognizes the significance of knowledge in solving cognitive and practical problems; reliably evaluates results of his own and team research	Student is ready to cooperate for resolving entrusted issues	[SK1] Assessment of group work skills
	[K7_W12] has deep and theoreticaly firm knowledge about geotechnical investigation, the rules of geotechnical design and engineering geology; knows the complcated processes in soil, techniques of foundations, draining systems, soil strengthening, geosynthetics applications, underground constructions and earthworks	Learning about the impact of geological processes on subsoil, it's parameters and structure stability. Understanding the specificity of groundwater occurrence and its impact on interaction between the structure and the foundation and the influence on investment process. Knowledge of reading and drawing geological- engineering cross-sections; knowledge about assessment of geological-engineering and hydrogeological conditions.	[SW1] Assessment of factual knowledge

Subject contents	Geological-engineering environment, geological-engineering subsoil classification of; the aim and the scope of geological-engineering studies; classification of study methods. Assessing of geological-engineering investigations basis of documenting, elaboration of maps, profiles, cross-sections. Models of soil structures. Geological-engineering maps. General characteristics of geodynamic processes. The role of water in nature. Hydrological cycle. Origin of groundwater. Hydrogeological properties of rocks. Groundwater properties. Methods of field and laboratory hydrogeological investigations. Groundwater protection. Drawing of hydrogeological and engineering-geological maps and cross-sections.
Prerequisites and co-requisites	Understanding of issues included in Soil Mechanics learning program. General understanding of issues specified in the Geology learning program (Bases of the Earth Science), Quaternary Geology and Geomorphology in particular

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
lecture - written test	60.0%	50.0%
lab - colloquium	60.0%	30.0%
lab - practical exercises	60.0%	20.0%

Recommended reading

Basic literature	Bażyński J., Drągowski A., Frankowski Z., Kaczyński R., Rybicki ,S., Wysokiński L. - Zasady Sporządzania Dokumentacji Geologiczno-Inżynierskich. Wydawnictwa PIG; Warszawa 1999. Lenczewska-Samotyja E., Łowisk A., Zdrojewska N. - Zarys geologii z elementami geologii inżynierskiej i hydrogeologii. Wyd. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2000. Pazdro Z., Kozerski B. - Hydrogeologia ogólna. Wydawnictwo Geologiczne, Warszawa1990.
Supplementary literature	Wieczysty A. - Hydrogeologia stosowana. Wyd. PWN, Warszawa 1982. Pisarczyk S. - Gruntoznawstwo inżynierskie. Wyd. PWN, Warszawa 2001.
eResources addresses	

Example issues/ example questions/ tasks being completed	What is the difference between the documentation of subsoil investigations and geological-engineering documentation? What is soil liquefaction? What is plasticity index?
Work placement	Not applicable