GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Building Materials , PG_00043933						
Field of study	Civil Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2024/2025			
Education level	first-cycle 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	2.0			
Learning profile	general academic profile		Assessment form	assessment			
Conducting unit	Department of Engineering Structures -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Michał Wójcik					
	Teachers	mgr inż. Sławomir Dobrowolski dr hab. inż. Michał Wójcik					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
	Additional information: Stationary classes, in the form of lectures and laboratory classes.						
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	30	2.0	18.0	50		
Subject objectives	After the Building Materials course the student will be able to: memorize and define the physical and mechanical properties of the building materials and classify them to one of the basic group; explain the processes, which take place in the building materials; interpret and apply the standards concerning the quality and properties of building materials, apply various building materials.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W02] Demonstrate knowledge and understanding of the processes and established methods of analysis / solution of engineering issues & problems in the field of civil engineering and of their limitations.	The student demonstrates knowledge and understanding of the processes and principles and methods of analysis, solving engineering issues and problems in the field of construction, and is aware of their limitations.	[SW1] Assessment of factual knowledge
[K6_U02] Analyse & solve engineering issues & problems in the field of civil engineering by applying appropriate and relevant established analytical, numerical and experimental methods.	The student analyzes and solves engineering issues and problems in the field of construction through the use of appropriate and appropriate analytical, numerical and experimental tools and methods.	[SU1] Assessment of task fulfilment
[K6_U01] Apply knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering to solve engineering problems and issues.	The student applies knowledge of mathematics, science and engineering disciplines underlying construction to solve engineering problems and issues.	[SU1] Assessment of task fulfilment
[K6_W06] Demonstrates practical knowledge and understanding of materials, devices and tools, processes and technologies in the field of civil engineering (and their limitations).	The student demonstrates practical knowledge and understanding of materials, devices and tools, processes and technologies in the field of construction.	[SW1] Assessment of factual knowledge
[K6_U05] Conducts research (obtaining information, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	The student conducts research (information acquisition, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment

Subject contents

Technical properties of building materials. Natural stone materials. Ceramic building products. Lightweight aggregates, cavernous concrete, cellular concrete, foamed concrete. Products based on lime, Portland cement , and gypsum binders. Glass properties and products used in construction industry. Wood and wooden building products. Materials for thermal and sound insulation. Bituminous and plastic materials for damp proofing. Plastic properties, classification, products, usage in construction industry. Materials for protection against ionising radiation. Painting materials and various finishing materials.

Prerequisites and co-requisites

Basic knowledge of physics and chemistry.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Oral test	100.0%	100.0%

Recommended reading

Basic literature	Lecture notes published on the website.
Supplementary literature	Stefańczyk B., *Budownictwo ogólne*, tom 1, Warszawa: Arkady 2005. Szymański E., *Materiałoznawstwo budowlane z technologią betonu*, cz. 1. i 2., Warszawa: Oficyna Wydawnicza Politechniki Warszawskiej, 2005. Żenczykowski W., *Budownictwo ogólne*, t. 1., Warszawa: Arkady, 1992.
eResources addresses	Podstawowe https://enauczanie.pg.edu.pl/moodle/course/view.php?id=28851 - A course on the eNauczanie platform concerning laboratory classes, containing didactic materials. https://enauczanie.pg.edu.pl/moodle/course/view.php?id=28972 - A course on the eNauczanie platform for lecture classes, containing didactic materials. Adresy na platformie eNauczanie: Materiały Budowlane - Wykład 2024/2025 sem. 2 inż. - Moodle ID: 25010 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25010 Materiały Budowlane - laboratorium 2024/2025, sem. 2 inż. - Moodle ID: 43460 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=43460

Example issues/ example questions/ tasks being completed

Name the construction product, describe production technology and other materials used in its manufacture, specify its basic physical and mechanical properties and give its application in construction.

Work placement

Not applicable

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