

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of civil engineering, PG_00064171							
Field of study	Transport							
Date of commencement of studies	October 2025		Academic year of realisation of subject			2025/2026		
Education level	first-cycle 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	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 Geotechnical And Hydraulic Engineering -> Faculty Of Civil And Environmental Engineering - > Wydziały Politechniki Gdańskiej							
Name and surname	Subject supervisor		dr inż. Paweł Więcławski					
of lecturer (lecturers)	Teachers							
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
of instruction	Number of study hours	15.0	15.0	0.0	0.0		0.0	30
	E-learning hours inclu	uded: 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	30		3.0		17.0		50
Subject objectives	To introduce students to the basic building materials, the main structures and building elements used in transport infrastructure construction. To present design methods and limit state conditions of engineering structures.							
Learning outcomes	Course outcome		Subject outcome			Method of verification		
	[K6_U08] able to carry out simple engineering tasks related to the construction and operation of a selected element of the transport system, select the right methods and tools		Student can calculate the values of loads acting on an abutment, bridge pillar and tunnel, taking into account permanent and variable loads. Student can estimate vertical displacements of the structure. Knows what scheme to adopt for static calculations. Knows how to create simple models in the computer programme Robot.			[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment		
	[K6_W02] has knowledge of physics, mechanics, electrical engineering, hydromechanics, thermodynamics, materials science, and measurement techniques necessary to understand the phenomena occurring in transportation, as well as the principles of construction and operation of infrastructure and means of transport		Student is able to identify the environmental conditions: type of substrate; constant and variable loads under which an engineering structure works: road embankment; bridge, tunnel, road culvert. Based on the strength parameters of the substrate and construction materials, Student is able to identify the appropriate construction solution and the principles of their operation.			[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		

1. Definition: construction, building, structure, small architecture object. Presentation of the different transhes of construction. 2. Review of legislation, regulations and standards used in the design process of various building structures. 3. Introduction to soil subsoil issues: strength parameters, deformation parameters; physical characteristics of actions acting on various transport infrastructure construction. 5. Orienteelristics of actions acting on various transport infrastructure structures. 6. Overview of construction materials used in the design proceedures actioning to Eurocole 7. 7. Yees and principles of fourties frameworks for the structure structures. 8. Verification of load bearing capacity condition of selected structural elements. 9. Introduction to hydralic engineering construction. Types of Mydralic engineering. 11. Ecology and GO2 in road construction. 12. Characteristics and design principles of vertical and horizontal transport for civil engineering. 2. Vertification Structure Structure Structure Structures. 3. Subject passing oriteria Persenty Structures. 3. Subject passing oriteria Persenty Structures. 4. EXERCISE 2: CUVERT1 50.0% 40.0% CapActTY AND Structure. CAPACITY AND Structure. 50.0% 2. Exercise 2: CUVERT1 50.0% 3.0.0% 1. Eurokod 1 (2002). Oricitzenia konstrukci Część 2. Obciag	Subject contents						
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