

表 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Civil engineering buildings in transportation, PG_00044661								
Field of study	Transport								
Date of commencement of studies	October 2023		Academic year of realisation of subject			2025/2026			
Education level	first-cycle studies		Subject group			Optional subject group 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	3		Language of instruction			Polish			
Semester of study	6		ECTS credits			4.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Railway Engineering -> Faculty of Civil and Environmental Engineering								
Name and surname	Subject supervisor								
of lecturer (lecturers)	Teachers								
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory Project		t	Seminar	SUM	
	Number of study hours	30.0	15.0	0.0 15.0			0.0	60	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM	
	Number of study hours	60		5.0		35.0		100	
Subject objectives	Basic knowledge on designing and dimensioning of bridge structures								
Learning outcomes	Course outcome Subject outcome Method of verification						ication		
	[K6_W18] has proficiency in transport infrastructure as appropriate for their specialty		The student is able to define the basic concepts of engineering structures in transport, lists the types of bridges and tunnels, can name the elements of equipment.						
	[K6_U13] able to select tools and methods, carry out assessments and simple tests of transport infrastructure and means of transport to an extent required of the specialty / learning profile			The student is able to identify construction elements, way of carrying loads and has a basic understanding of the principles of dimensioning and designing bridges.					
Subject contents	Engineering objects - basic definitions and materials. Materials for building bridges. Static schemes of bridges - beam, plate, frame, arches, trusses, cable stayed, suspended. Loads and influences on bridges. Tunnels. Engineering facilities equipment. Bridge construction technologies.Preliminary design of a bridge with a steel structure.Collection of loads and calculation of steel bridge components.								
Prerequisites and co-requisites	No requirements								
Assessment methods	Subject passing criteria		Passing threshold		Percentage of the final grade				
and criteria	Colloquium		60.0%		40.0%				
	Preliminary design of the bridge		60.0%		30.0%				
	Collection of loads an of bridge calculations	nd execution	60.0%			30.0%			

Recommended reading	Basic literature	 Szczygieł J.: Mosty z betonu zbrojonego i sprężonego. WKiŁ, Warszawa 1978. Czudek H., Radomski W.: Podstawy mostownictwa. PWN, Warszawa 1983. Ryżyński A., Wołowicki W., Skarżewski J., Karlikowski J.: Mosty Stalowe. PWN, 				
		5. Madaj A., Wołowicki W.: Budowa i utrzymanie mostów. WKiŁ, Warszawa 1995.				
	Supplementary literature	1. Madaj A., Wołowicki W.: Mosty betonowe. WKiŁ, Warszawa 1998.				
		2. Jarominiak A.; Mosty podwieszone. Oficyna Wydawnicza Politechniki Rzeszowskiej, Rzeszów 1997.				
		3. Cholewo J., Sznurowski M.: Mosty kolejowe i fundamentowanie. WKiŁ, Warszawa 1965.				
		4. Furtak K., Mosty zespolone, PWN, Warszawa, Kraków, 1999				
		5. Biliszczuk J., Mosty podwieszone. ARKADY, Warszawa 2005				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	 List the types of bridges. What bridge structures are made of steel? What is reinforced concrete? Mark the elements that are part of the structure of the braking bracing. What are the working phases of composite structures? Sketch a cross-section of the road, composite, simple support deck bridge. How is the the impact of the wheel against the rail head transmitted? What is a secondary suspension? How are expansion forces transmitted in arch beams? 					
Work placement	Not applicable					