



Subject card

Subject name and code	Bridges and Tunnels II - Project, PG_00069303						
Field of study	Civil Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2026/2027		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		1.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Engineering Structures -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Arkadiusz Sitarski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	15.0	0.0	15
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=2231						
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		9.0	25
Subject objectives	The aim of the course is to carry out a design project of a composite steelconcrete bridge.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K01] Is aware of the key aspects of professional, ethical and social responsibility related to management, business operation, decision making and opinion formulation in civil engineering.		Nie dotyczy		[SK3] Assessment of ability to organize work		
	[K6_U07] Design and build engineering structures in a sustainable manner, with care for the natural environment and a minimum carbon footprint		Nie dotyczy		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_U06] Conduct engineering activities in civil engineering subject area, using and applying practical knowledge and understanding of materials, equipment and tools, processes and technologies.		Is able to identify the type of bridge structure and present the main actions affecting it, including long-term and short-term loads. Is able to determine whether a given structure is dynamically sensitive.		[SU4] Assessment of ability to use methods and tools		
	[K6_W07] Understand the investment's impact on the environment and the interrelationships and dependencies between the building structure and the natural environment		Nie istotne		[SW2] Assessment of knowledge contained in presentation		
	[K6_W06] Demonstrates practical knowledge and understanding of materials, devices and tools, processes and technologies in the field of civil engineering (and their limitations).		Knowledge in the field of designing calculations and construction technology for composite bridge structures		[SW2] Assessment of knowledge contained in presentation		

Subject contents	Course content – project Identification of actions affecting the structure. Determination of internal forces in the specified steelconcrete grillage, taking into account the construction technology. Determination of stress magnitudes resulting from quasi-static loads, rheological effects (creep and shrinkage), and temperature differences between steel and concrete.		
Prerequisites and co-requisites	Has knowledge of calculation procedures for steel and concrete cross-sections. Is familiar with methods of determining internal forces using analytical approaches and basic engineering software for the analysis of frame and beam (3D) structures.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		60.0%	50.0%
		51.0%	50.0%
Recommended reading	Basic literature	1) Koreleski J. Zespólone Konstrukcje Mostowe. PWN Warszawa-Kraków 1967 2) Karlikowski J. Madaj A. Wołowicki W. Mostowe konstrukcje zespolone WKŁ 3) Karlikowski J. Madaj A. Wołowicki W.: Mosty zespolone stalowo-betonowe. Zasady projektowania PN-EN 1994-2 WKŁ 2015 4) Siwowski T> Turoń B. Projektowanie mostów zespolonych według Eurokodu 4. Rzeszów 2016	
	Supplementary literature	1) Ryżyński A i inni Mosty Stalowe, PWN Warszawa-Poznań 1984 2) Kazimierz Furtak: Mosty Zespolone PWN 1999 2) Madaj A., Wołowicki W.: Budowa i utrzymanie mostów. WKiŁ, Warszawa 1995 3) Franciszek Szelągowski Mosty metalowe część i i II WKŁ Warszawa 1966	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	Determination of internal forces in a grillageslab bridge structure. Determination of stresses resulting from quasi-static loads and from effects related to concrete creep and shrinkage, as well as temperature-difference impacts. Presentation of equipment and ancillary components used in road bridges. Able to sketch the structure of bridge supports and their elements.	
Practical activities within the subject	Not applicable		

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