



Subject card

Subject name and code	, PG_00065912						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2024/2025		
Education level	first-cycle studies		Subject group				
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		6.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Engineering Structures -> Faculty Of Civil And Environmental Engineering -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Tomasz Heizig				
	Teachers		dr inż. Dariusz Kowalski dr inż. Aleksander Perliński dr inż. Natalia Korcz-Konkol dr inż. Tomasz Heizig				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	10.0	10.0	0.0	40
	E-learning hours included: 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	40		0.0		0.0	40
Subject objectives	Familiarization with loads, load-bearing systems and structural solutions of steel warehouses. Preparation of design documentation for selected elements of the steel structure of the warehouses. Familiarization with welding techniques.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.		Is able to design the main elements of a steel hall using current standards. Knows welding processes.		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.		Knows and understands the guidelines of actual design codes used in the design of steel halls.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U07] Design and build engineering structures in a sustainable manner, with care for the natural environment and a minimum carbon footprint		Knows and applies optimal construction solutions in design.		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W07] Understand the investment's impact on the environment and the interrelationships and dependencies between the building structure and the natural environment		Knows the relationship between building geometry and climatic loads.		[SW3] Assessment of knowledge contained in written work and projects		
Subject contents	Design of a single bay hall with a steel structure with purlins, lattice girder and I-shaped columns - calculation of loads, static calculations using computer software, dimensioning of the main structure elements, preparation of selected construction drawings.						

Prerequisites and co-requisites	Student knows the main rules of dimensioning of individual elements of steel structures as well as welded and bolted connections, which he acquired during the course "Metal Structures I".		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test from the laboratory	60.0%	20.0%
	Written test from lectures	60.0%	40.0%
	Design of the warehouse and colloquium	60.0%	40.0%
Recommended reading	Basic literature	1. Praca zbiorowa pod red. A. Kozłowskiego: Konstrukcje stalowe. Przykłady obliczeń według PN-EN 1993-1. Część pierwsza. Wybrane elementy i połączenia. Oficyna Wydawnicza PRz, Rzeszów 2009. 2. Praca zbiorowa pod red. A. Kozłowskiego: Konstrukcje stalowe. Przykłady obliczeń według PN-EN 1993-1. Część druga. Stropy i pomosty. Oficyna Wydawnicza PRz, Rzeszów 2011. 3. Praca zbiorowa pod red. A. Kozłowskiego: Konstrukcje stalowe. Przykłady obliczeń według PN-EN 1993-1. Część trzecia. Hale i wiaty, Oficyna Wydawnicza PRz, Rzeszów 2015. 4. Goczek J., Supel Ł., Gajdzicki M.: Przykłady obliczeń konstrukcji stalowych, Wydawnictwo PŁ, Łódź 2010. 5. Bródka J., Broniewicz M.: Projektowanie konstrukcji stalowych według Eurokodów. Materiały szkoleniowe. Polskie Wydawnictwo Techniczne, Rzeszów 2010. 6. Rykaluk K.: Konstrukcje stalowe. Podstawy i elementy. DWE, Wrocław 2001. 7. PN-EN 1993-1-1 Eurokod 3: Projektowanie konstrukcji stalowych. Część 1-1: Reguły ogólne i reguły dla budynków	
	Supplementary literature	1. Bogucki W., Żybertowicz M.: Tablice do projektowania konstrukcji metalowych. Arkady, Warszawa 2007.	
	eResources addresses	Adresy na platformie eNauczanie: Konstrukcje metalowe II (2024/2025) - Moodle ID: 45830 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=45830	
Example issues/ example questions/ tasks being completed	1. Check the ULS of the steel purlin. 2. Check the SLS of the steel purlin. 3. Check the load capacity of the lattice girder bottom chord. 4. Check the load capacity of the lattice girder top chord. 5. Check the load capacity of the hall column.		
Work placement	Not applicable		

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