Subject card

Subject name and code	Steel Structures II, PG_00048196
Field of study	Civil Engineering

Date of commencement of studies	October 2021	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	7	ECTS credits	8.0
Learning profile	general academic profile	Assessment form	exam

Conducting unit	Department of Engineering Structures -> Faculty of Civil and Environmental Engineering

Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Tomasz Heizig
	Teachers	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	30.0	0.0	60
	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	60	7.0	133.0	200

Subject objectives	Preparation of design documentation for selected elements of the steel structure of the hall.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U01] can evaluate and list the loads acting on constructions	Is able to use the standards and determine appropriate loads.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
	[K6_W06] knows the rules of constructing and dimensioning of building elements of: steel, reinforced concrete, wood, masonry.	Knows the main rules of design and calculations of the main elements of the steel structure such as beams, lattice girders, columns and bracings.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_W11] Knows selected software supporting the calculation and design of construction as well as construction management	Can perform numerical statics model and carry out the necessary calculations.	[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 and connections, 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 lectures	60.0%	50.0%
	Steel hall design	60.0%	50.0%

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., Supeł 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
		8. PN-EN 1993-1-1 Eurokod 3: Projektowanie konstrukcji stalowych. Część 1-8: Projektowanie węzłów
	Supplementary literature	1. Bogucki W., Żyburtowicz M.: Tablice do projektowania konstrukcji metalowych. Arkady, Warszawa 2007.
	eResources addresses	Adresy na platformie eNauczanie: Konstrukcje metalowe II - Moodle ID: 42613 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=42613
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 chord.	
Work placement	Not applicable	

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