



Subject card

Subject name and code	Industrial Construction , PG_00048190						
Field of study	Civil Engineering						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
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	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 Building Structures and Material Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Krzysztof Drag					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	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	30	5.0		65.0	100	
Subject objectives	The student knows typical industrial structures in the area of cubature structures, supporting structures and special structures. The student is able to define the basic principles of designing and making such structures. The student is able to determine the loads and analyze the static work of selected industrial structures. The student is able to design selected industrial special structures such as chimneys, wind towers and other tower structures.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_K03] can think and act creatively and enterprisingly, obeys the etics code				[SK5] Assessment of ability to solve problems that arise in practice		
	[K6_U05] is able to use selected software supporting design decisions in civil engineering; can critically evaluate numerical calculations of constructions				[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		
	[K6_U11] knows and applies rules of construction law; can estimate risk of construction works and implement proper security routines; obeys the rules of occupational safety and health				[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_U04] can correctly choose tools (analytical or numerical) to solve engineering problems in design of structures or construction process				[SU2] Assessment of ability to analyse information		
	[K6_W09] knows the principles of determining of loads acting on basic constructions (e.g. general, industrial, bridge, water, marine, transport objects) and rules of its constructing				[SW1] Assessment of factual knowledge		
Subject contents	Types of industrial facilities and principles of their construction. Principles of designing industrial tower structures. Principles of dimensioning of industrial structures, taking into account the specificity of the existing loads. Calculation of an industrial tower structure taking into account dynamic and temperature loads.						

Prerequisites and co-requisites	Knowledge of building statics. Knowledge of the basics of general construction. Knowledge of the principles of designing concrete, steel and masonry structures.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		60.0%	50.0%
		60.0%	50.0%
Recommended reading	Basic literature	1. Lipiński J.: Fundamenty pod maszyny. Arkady 1996 2. Czarnecki W., Łączkowski A.: Budownictwo przemysłowe, ATR Bydgoszcz 1982 3. Falkowski J.: Konstrukcje wsporcze pod maszyny, WSI Koszalin 1995 4. Kral L.: Elementy budownictwa przemysłowego. PWN 1984	
	Supplementary literature	1. PN 80/B-03040 Fundamenty i konstrukcje wsporcze pod maszyny 2. EN 13084-1 Free-standing chimneys - Part 1: General requirements 3. EN 13084-2 Free-standing chimneys - Part 2: Concrete chimneys	
	eResources addresses	Adresy na platformie eNauczanie: Budownictwo Przemysłowe I projektowanie sem. VI ns. - Moodle ID: 38163 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38163	
Example issues/ example questions/ tasks being completed	Students design an industrial tower structure subject to dynamic wind pressure and thermal loads.		
Work placement	Not applicable		