GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Industrial Construction , PG_00048190		
Field of study	Civil Engineering		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2022/2023
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 Drąg	
	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_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
[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_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_U05] is able to use selected software supporting design decisions in civil engineering; can critically evaluate numerical calculations of constructions		[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
[K6_K03] can think and act creatively and enterprisingly, obeys the etics code		[SK5] Assessment of ability to solve problems that arise in practice

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.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Knowledge of building statics. Knowledge of the basics of general construction. Knowledge of the principles of designing concrete, steel and masonry structures.</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td></td><td>60.0%</td><td>50.0%</td></tr><tr><td></td><td>60.0%</td><td>50.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">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</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">1. PN 80/B-03040 Fundamenty i konstrukcje wsporcze pod maszyny

2. EN 13084-1 Free-standing chimneys - Part 1: General reguirements

3. EN 13084-2 Free-standing chimneys - Part 2: Concrete chimneys</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:
Budownictwo Przemysłowe I stropień I studia niestacjonarne - Moodle ID: 30348
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30348</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Students design an industrial tower structure subject to dynamic wind pressure and thermal loads.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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