GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Industrial Construction , PG_00049206		
Field of study	Civil Engineering		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study 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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
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	10.0	0.0	0.0	0.0	25

E-learning hours included: 0.0

Adresy na platformie eNauczanie:

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	25	5.0	45.0	75

Subject objectives

The student knows the types of industrial structures. The student is able to determine the loads and analyze the work of typical industrial structures. The student is able to design elements and entire industrial structures dynamically loaded such as ceilings, columns, halls, frame and block foundations

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U12] can calculate and analyse the energy balance of a building	Ability to design structures industrial, such as halls, frame and block foundations, ceilings and columns with dynamic loads.	[SU4] Assessment of ability to use methods and tools
[K7_W10] knows modern building materials as well as technologies and methods of its manufacturing and production of construction elements	Knowledge of calculation methods used for the dimensioning of industrial structures under dynamic loads.	[SW1] Assessment of factual knowledge
[K7_W09] knows advanced methods of building physics with applications in heat and moisture migration in buildings, energy demand for buildings and its acoustics	Knowledge of construction solutions occurring in industrial construction and the ability to determine the scope of their application.	[SW1] Assessment of factual knowledge

Subject contents

Types of industrial facilities. The process of designing and implementing objects in industrial construction.Classification and determination of loads in industrial construction, static and dynamic loads,direct and indirect. Materials used in industrial construction, dynamic propertiesmaterials. Methods of dimensioning industrial structures subjected to repeatedly changing loads.Calculation of the frame foundation with direct dynamic load, calculation of the hall structureindirectly dynamically loaded, calculation of floor slab loaded with rotating machines.

Prerequisites and co-requisites	Knowledge of building statics.Basic knowledge of building dynamics.Basic knowledge of general construction.Knowledge of the principles of designing concrete and steel 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. Chmielewski T., Zembaty Z.: Podstawy dynamiki budowli. Arkady 1998 3. Goliński W.: Wibroizolacja maszyn i urządzeń. WNT 1987 4. Osiński L.: Tłumienie drgań mechanicznych. PWN 1990
Supplementary literature	1. PN 80/B-03040 Fundamenty i konstrukcje wsporcze pod maszyny 2. PN 85/B-02170 Ocena szkodliwości drgań przekazywanych przez podłoże na budynek 3. Czarnecki W., Łączkowski A..: Budownictwo przemysłowe, ATR Bydgoszcz 1982 4. Falkowski J.: Konstrukcje wsporcze pod maszyny, WSI Koszalin 1995
eResources addresses	

Example issues/ example questions/ tasks being completed	Students prepare a design of a frame foundation loaded with a set of machines or a design of a hall structuresubjected to vibrations transmitted through the ground or floor slab design loaded with a rotating machine
Work placement	Not applicable