GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Experimental Methods in Strength of Mechanics, PG_00062604		
Field of study	Civil Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	4	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Structural Mechanics -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Krajewski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	15.0	0.0	0.0	15

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	15	0.0	0.0	15

Subject objectives

The purpose of the laboratory is an verification of theory of structural mechanics using model testing.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W02] Demonstrate knowledge and understanding of the processes and established methods of analysis / solution of engineering issues & problems in the field of civil engineering and of their limitations.	Students shows abilities in structural mechanics	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation
[K6_U05] Conducts research (obtaining information, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	The student is able to provide research in his scope	[SU2] Assessment of ability to analyse information
[K6_U02] Analyse & solve engineering issues & problems in the field of civil engineering by applying appropriate and relevant established analytical, numerical and experimental methods.	The student is able to provide research in his scope	[SU2] Assessment of ability to analyse information
[K6_U01] Apply knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering to solve engineering problems and issues.	The student is able to provide research in his scope	[SU2] Assessment of ability to analyse information

Subject contents

The experiments on statistically determinant and undeterminant structures like beams ,trusses and frames are individually carried out and analysed.

Prerequisites and co-requisites

Courses: Engineering Mechanics (BSP012), Strength of Materials (BSP015) should be completed. Course Structural Analysis (BSP020) should be taken. Precondition to the executing of experiments is acquaintance with the Ref. [1].

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test	60.0%	30.0%
Defences of reports (oral or written)	60.0%	70.0%

Recommended reading	Basic literature	[1] Praca zbiorowa: *Metody Doświadczalne w Mechanice Budowli*. Materiały pomocnicze do laboratorium, Gdańsk 2017 [2] W. Nowacki: *Mechanika Budowli,* Tom 1 i 2, PWN, Warszawa 1964 [3] A. Chudzikiewicz: *Statyka budowli.* Tom 1 i 2, PWN, Warszawa 1976 [4] J. Przewłocki, J. Górski: *Podstawy Mechaniki Budowli*, Arkady, 2006 (i wydania późniejsze) [5] Z. Dyląg, E. Krzemińska-Niemiec, F. Filip: *Mechanika budowli.* Tom 1 i 2, PWN 1986 [6] E. Bielewicz: *Wytrzymałość materiałów*, Gdańsk 2006 [7] M. Banasiak: *Ćwiczenia laboratoryjne z wytrzymałości materiałów.* PWN, Warszawa 2000 [8] J. Koronacki, J. Mielniczuk: *Statystyka dla studentów kierunków technicznych i przyrodniczych.* Wydawnictwo Naukowo-Techniczne, Warszawa 2001 [9] W. Klonecki: *Statystyka dla inżynierów*. PWN, Warszawa 1999.
	Supplementary literature	Górski J., Kreja I., Skowronek M.: Support materials for lectures of Engineering Mechanics. Electronic version available for download from www.okno.pg.gda.pl WILiŚ PG
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	- discuss experiment, data preparation and support reaction determining for undetermined beam; - discuss methods of displacements determination in different systems, solve a given task; - elastic support influence on structural bechaviour, experiment and theory; - experimental and theoretical determination of: bimoments, buckling force of a frame.	
Work placement	Not applicable	

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