



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 2022		Academic year of realisation of subject		2023/2024		
Education level	first-cycle studies		Subject group		Optional 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		dr hab. inż. Marcin Kujawa dr inż. Marcin Krajewski dr inż. Marcin Zmuda Trzebiatowski dr hab. inż. Agnieszka Tomaszewska dr inż. Karol Winkelmann				
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_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		
	[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_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_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		[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge		
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
	Defences of reports (oral or written)	60.0%	70.0%
	Test	60.0%	30.0%
Recommended reading	Basic literature	[1] Praca zbiorowa: <i>Metody Doświadczalne w Mechanice Budowli</i> . Materiały pomocnicze do laboratorium, Gdańsk 2017 [2] W. Nowacki: <i>Mechanika Budowli</i> , Tom 1 i 2, PWN, Warszawa 1964 [3] A. Chudzikiewicz: <i>Statyka budowli</i> . Tom 1 i 2, PWN, Warszawa 1976 [4] J. Przewłocki, J. Górski: <i>Podstawy Mechaniki Budowli</i> , Arkady, 2006 (i wydania późniejsze) [5] Z. Dyląg, E. Krzemińska-Niemiec, F. Filip: <i>Mechanika budowli</i> . Tom 1 i 2, PWN 1986 [6] E. Bielewicz: <i>Wytrzymałość materiałów</i> , Gdańsk 2006 [7] M. Banasiak: <i>Ćwiczenia laboratoryjne z wytrzymałości materiałów</i> . PWN, Warszawa 2000 [8] J. Koronacki, J. Mielniczuk: <i>Statystyka dla studentów kierunków technicznych i przyrodniczych</i> . Wydawnictwo Naukowo-Techniczne, Warszawa 2001 [9] W. Klonecki: <i>Statystyka dla inżynierów</i> . 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: Metody Doświadczalne w Mechanice Budowli 2024r - Moodle ID: 36560 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36560	
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none">- 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 behaviour, experiment and theory;- experimental and theoretical determination of: bimoments, buckling force of a frame.		
Work placement	Not applicable		

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