



Subject card

Subject name and code	Structural Analysis , PG_00048188						
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		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Structural Mechanics Department -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marcin Kujawa					
	Teachers	dr hab. inż. Marcin Kujawa dr inż. Magdalena Oziębło					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	25.0	0.0	0.0	20.0	0.0	45
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	45	7.0		73.0		125
Subject objectives	the analysis of statically indeterminate structures						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W05] knows laws of mechanics used in rod constructions in scope of statics and stability, has an elementary knowledge on dynamics	the student properly defines the tasks of statics and stability			[SW1] Assessment of factual knowledge		
	[K6_U03] can analyze simple rod constructions in scope of: calculations of constructions statically determined and undetermined; determining of modal frequencies; calculations of linear stability and bearing capacity in critical and boundary states	the student computes cross-sectional forces and deflections in an indeterminate system			[SU1] Assessment of task fulfilment		
	[K6_W04] has knowledge of general mechanics, strength of materials and general rules of construction	the student computes cross-sectional forces and deflections in an indeterminate system			[SW1] Assessment of factual knowledge		
Subject contents	slope and deflection method symmetry in analysis theorems to compute deflections in redundant systems stability of bar systems limit loads of bar systems cross-sectional force envelopes						
Prerequisites and co-requisites	engineering mechanics, strength of materials						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	exam	50.0%			40.0%		
	project	50.0%			60.0%		

Recommended reading	Basic literature	<p>Branicki C. (red.): Zadania z Mechaniki Budowli, Tom II, Układy statycznie niewyznaczalne, Skrypt PG, 1976.</p> <p>Chudzikiewicz A.: Statyka budowli. cz. 1, 2, Wyd. II, PWN, Warszawa 1975.</p> <p>Cywiński Z.: Mechanika budowli w zadaniach Tom II, PWN, 1984 (i wydania późniejsze).</p> <p>Dyłaż Z., Krzemińska-Niemiec E.: Mechanika budowli, Tom 2 i 3, Wyd. Pol. Białostockiej 1993 (i wydania późniejsze).</p> <p>Dąbrowski O., Kolendowicz T.: Poradnik inżyniera i technika budowlanego mechanika budowli. Tom 3, ARKADY, Warszawa, 1998.</p> <p>Niezdodziński T.: <i>Mechanika ogólna.</i>, WN PWN Warszawa 2002.</p> <p>Nizioł J.: <i>Metodyka rozwiązywania zadań z mechaniki</i>, WNT Warszawa 2002.</p> <p>Misiak J.: <i>Mechanika techniczna. Statyka i wytrzymałość materiałów.</i> WNT, Warszawa 1977.</p> <p>Kolendowicz T.: <i>Mechanika budowli dla architektów.</i> Arkady, Warszawa 1996.</p> <p>Pyrak S., Szulborski K.: <i>Mechanika konstrukcji. Przykłady obliczeń.</i> Arkady, Warszawa 2001.</p> <p>Chmielewski T., Nowak H.: Mechanika budowli. WNT. Warszawa, 1996.</p> <p>Przewłócki J., Górski J.: Podstawy Mechaniki Budowli, Arkady, 2006 (i wydania późniejsze).</p>
	Supplementary literature	does not concern
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Mechanika budowli (sem. 5) - Moodle ID: 33993 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33993</p>
Example issues/ example questions/ tasks being completed	<p>static analysis of a bar system computing the system buckling load computing the system limit load</p>	
Work placement	Not applicable	