



Subject card

Subject name and code	Structural Analysis , PG_00048188										
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						
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								
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_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					
	[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_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					
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					
	project		50.0%			60.0%					
	exam		50.0%			40.0%					

Recommended reading	Basic literature	<p>Branicki C. (red.): <i>Zadania z Mechaniki Budowli, Tom II, Układy statyczne niewyznaczalne, Skrypt PG</i>, 1976.</p> <p>Chudzikiewicz A.: <i>Statyka budowli. cz. 1, 2, Wyd. II</i>, PWN, Warszawa 1975.</p> <p>Cywiński Z.: <i>Mechanika budowli w zadaniach Tom II</i>, PWN, 1984 (i wydania późniejsze).</p> <p>Dylag Z., Krzemińska-Niemiec E.: <i>Mechanika budowli, Tom 2 i 3</i>, Wyd. Pol. Białostockiej 1993 (i wydania późniejsze).</p> <p>Dąbrowski O., Kolendowicz T.: <i>Poradnik inżyniera i technika budowlanego mechanika budowli. Tom 3</i>, ARKADY, Warszawa, 1998.</p> <p>Niezgodziński 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.: <i>Mechanika budowli</i>. WNT. Warszawa, 1996.</p> <p>Przewłocki J., Górska J.: <i>Podstawy Mechaniki Budowli</i>, Arkady, 2006 (i wydania późniejsze).</p>
	Supplementary literature	does not concern
	eResources addresses	Adresy na platformie eNauczanie: Mechanika budowli (sem. 5) - Moodle ID: 25613 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25613">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25613</a>
	Example issues/ example questions/ tasks being completed	static analysis of a bar system computing the system buckling load computing the system limit load
	Work placement	Not applicable