



## Subject card

Subject name and code	Technical Mechanics 2, PG_00042007						
Field of study	Power Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group					
Mode of study	Full-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			assessment		
Conducting unit	Katedra Mechaniki Konstrukcji -> Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Bogdan Rozmarynowski					
	Teachers	dr hab. inż. Bogdan Rozmarynowski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	0.0	45
	E-learning hours included: 0.0						
Additional information: Lecture - distance learning							
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		10.0		70.0	125
Subject objectives	Teaching of the strength material basis and its applications to analysis of stresses state and displacements of the structure elements are an objective of the technical mechanics.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W04	Student can carry out a structural analysis of structures			[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects		
	K6_U02	Student can choose a proper method of analysis and design of structures			[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		
Subject contents	1) Introduction, 2) Analysis of stress and strain, stress-strain relationship, 3) Axially loaded members, 4) Moments of inertia, 5) Beams in bending, 6) Deflections due to bending, 7) Eccentrically loaded columns, 8) Shear, 9) Torsion of rods and thin-walled beams, 10) Combined problems, 11) Buckling of axially loaded columns, 12) Energy methods - displacements, 13) Axially symmetric shells, 14) Cables						
Prerequisites and co-requisites	Knowledge of static's						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Written colloquiums	20.0%			60.0%		
	Written exam	10.0%			40.0%		
Recommended reading	Basic literature	1) Bowes, Russel, Suter, Mechanics of Engineering Materials, John-Wiley & Sons, 1986. 2) Ambrose J., Simplified Mechanics and Strength of Materials, New York, John Wiley & Sons, 2002,; 3) Ross C.T., Chilver A., Strength of Materials and Structures; Elsevier, 1999					
	Supplementary literature	Singh U.K., Dvivedi M.; Problems and Solutions in Mechanical Engineering; New Age, 2007					
	eResources addresses	Adresy na platformie eNauczanie: Mechanika Techniczna II (PG_00042007), I stop., Energetyka, Powt., [W,C], [BR], zimowy, 22/23 - Moodle ID: 25935 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25935">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25935</a>					

Example issues/ example questions/ tasks being completed	- Determination of stress state in bending of beams  - Displacements of structures  - Critical load and stress of compressed column
Work placement	Not applicable