GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Technical Mechanics 2, PG_00049753					
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering					
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022	
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study	
Mode of study	Full-time studies		Mode of delivery		at the university	
Year of study	2		Language of instruction		English	
Semester of study	3		ECTS credits		5.0	
Learning profile	general academic profile		Assessment form		exam	
Conducting unit	Department of Theory and Ship Design -> Faculty of Mechanical Engineering and Ship Technology					
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Maciej Kahsin				
	Teachers	dr inż. Maciej Kahsin				

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						
	Adresy na platformie eNauczanie: Technical Mechanics 2 (PG_00049753) - Moodle ID: 20404 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=20404						

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	The aims of lecture is to provide basic knowledge of strength of materials and its exploitation in assessment of structural stress and deformation.		

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_W04	Student is able to design simple one-dimensional structures.	[SW1] Assessment of factual knowledge
	K6_U02	Student is able to proceed with basic 1D problems analyses; concerning strength, and flexibility criterions.	[SU1] Assessment of task fulfilment

Subject contents	1) Introduction, 2) Stress-strain relations, physical interpretation, 3) Axial loading of rods, 4) Moments of inertia, 5) Bending of beams, 6) Beam's line of deflection, 7) Shearing, 8) Torsion, 9) Complex stress – yield criterion, 10) linear buckling of column.		

Prerequisites and co-requisites	Technical Mechanics 2		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Tests	50.0%	50.0%
	Exam	50.0%	50.0%

Recommended reading	Basic literature	William Nash: Strength of Materials (any edition)
	Supplementary literature	.
	eResources addresses	Technical Mechanics 2 (PG_00049753) - Moodle ID: 20404 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=20404

Example issues/ example questions/ tasks being completed	1) Define stress and elongation of axially loaded rod, 2) Find principal moment of inertia, 3) Derive formula for line of beam's deflection, 4) Calculate reduces stress.
Work placement	Not applicable