



Subject card

Subject name and code	Technical mechanic [E], PG_00044531						
Field of study	Transport						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Katedra Wytrzymałości Materiałów -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Agnieszka Sabik					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	45.0	0.0	0.0	0.0	75
	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	75		5.0		45.0	125
Subject objectives	Solving technical problems on the basis of mechanical rules. Statical and strength analysis of construction elements.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
Subject contents	Classical mechanics. Statics of flat frame structures. Reactions and internal forces in beams, frames, trusses. Stress and strain state. Constitutive laws, Hooke's law. Tension/compression, bending, twisting, shear. Bending line of a beam. Stability of columns. Strength criteria.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Exam		60.0%		60.0%		
	Tests		60.0%		40.0%		
Recommended reading	Basic literature		1. Bielewicz E.: Wytrzymałość materiałów. Politechnika Gdańska, Gdańsk 2006. 2. Przewłócki J., Górski J.: Podstawy mechaniki budowli. Arkady Warszawa 2006. 3. Zadania z mechaniki budowli. t.1, skrypt PG pod redakcją Cz. Branickiego. 4. Lubowiecka I., Skowronek M.: Zadania z Mechaniki Budowli. Gdańsk 2000. 5. Lewiński J., Wilczyński A.P., Witemberg-Perzyk D.: Podstawy wytrzymałości materiałów, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2010. 6. Grabowski J., Iwanczewska A.: Zbiór zadań z wytrzymałości materiałów, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2012.				
	Supplementary literature		1. Wilde P., Wizmur M.: Mechanika teoretyczna. PWN Warszawa 1984. 2. Chudzikiewicz A.: Statyka budowli. t.1 Układy statycznie wyznaczalne. PWN Warszawa 1976.				
	eResources addresses		Adresy na platformie eNauczanie:				

Example issues/ example questions/ tasks being completed	Find internal forces in a given statically determined structure. Obtain deflections in beam elements. Obtain the buckling load of a beam. Determine the geometry of the cross-section of a given beam/frame element.
Work placement	Not applicable

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