GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Technical mechanic [E], PG_00044531		
Field of study	Transport		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
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	Department Of Mechanics Of Materials And Structures -> Faculty Of Civil And Environmental Engineering -> Wydziały Politechniki Gdańskiej		
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 stran 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
Tests	60.0%	40.0%
Exam	60.0%	60.0%

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 crossection of a given beam/frame element.
Work placement	Not applicable

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