

## 。 GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Subject name and code	Selections of materials, PG_00039741								
Field of study	Materials Engineering, Materials Engineering, Materials Engineering								
Date of commencement of studies	October 2021		Academic year of realisation of subject			2024/2025			
Education level	first-cycle studies		Subject group			Optional subject group 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	4		Language of instruction			Polish			
Semester of study	7		ECTS credits			1.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Materials Engineering and Bonding -> Faculty of Mechanical Engineering and Ship Technology								
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Artur Sitko						
	Teachers dr inż. Artur Sitko								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Project		Seminar	SUM	
of instruction	Number of study hours	0.0	0.0	0.0	15.0		0.0	15	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity Participation ir classes include plan		i didactic Participation in ed in study consultation hours		Self-study SUM				
	Number of study hours	15		1.0		9.0		25	
Subject objectives	Knowledge of basic concepts and methods of selecting materials in engineering applications. Understanding of the relationship between design requirements and material properties.								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	K6_U08		Student is able to independently complete work using various materials and sources.			[SU1] Assessment of task fulfilment			
	K6_W06		Based on available materials/ sources, as well as acquired knowledge regarding methods of selecting materials, the student is able to make their correct selection.			[SW3] Assessment of knowledge contained in written work and projects			
	K6_K02		Verification of the progress of project work during classes.			[SK2] Assessment of progress of work			
Subject contents	The role of material design. Elements and phases during engineering design. The principles of the material selection - basic properties of various material groups. Methods of producing materials. Material selection support systems and material databases. Examples of material selection due to their mechanical, thermal and corrosion properties. Solving basic design tasks.								
Prerequisites and co-requisites	No requirements								
Assessment methods Subject passing criteria Project		Passing threshold 100.0%			Percentage of the final grade 100.0%				

Recommended reading Basic literature		1. Ashby M.F.: Dobór materiałów w projektowaniu inżynierskim. WNT. Warszawa 1998					
		2. Ashby M.F., Jones D.R.H Materiały inżynierskie - Wła ciwo ci i zastosowania - tom 1. WNT, Warszawa 1996					
		3. Ashby M.F., Jones D.R.H Materiały inżynierskie - Kształtowanie struktury i wła ciwo ci materiałów - tom 2. WNT, Warszawa 1998					
		<ol> <li>Dobrzański L.A.: Materiały inżynierskie i projektowanie materiałowe: podstawy nauki o materiałach i metaloznawstwo. WNT. Warszawa 2006</li> </ol>					
		5. Blicharski M. : Wstęp do inżynierii materiałowej. Wyd. II, WNT, Warszawa 1998					
		6. Marciniak J.: Biomateriały. Wyd. Pol. Śl. 2002					
	Supplementary literature	1. Dobrzański L.A.: Metalowe materiały inżynierskie. WNT, Warszawa, 2004					
		<ol> <li>Dobrzański L.A.: Zasady doboru materiałów inżynierskich: z kartami charakterystyk. Gliwice, Wydaw. Politechniki Śląskiej, 2000</li> </ol>					
	eResources addresses	Adresy na platformie eNauczanie:					
Example issues/ example questions/ tasks being completed	1. Select the material for the head of the hip prosthesis						
	2. Select the correct material for the construction of the bicycle frame for various purposes						
	3. Select material for the child pram design.						
	4. Select the material for the computer radiator.						
Work placement	Not applicable						

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