



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 of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	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 in didactic classes included in study plan	Participation in 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 and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Project	100.0%			100.0%		

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

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