



Subject card

Subject name and code	Materials Science II, PG_00039938						
Field of study	Management and Production Engineering, Management and Production Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2020/2021		
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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Agata Lisińska-Czekaj					
	Teachers	Dorota Rogala-Wielgus dr inż. Tomasz Seramak dr hab. Agata Lisińska-Czekaj					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=12400 Adresy na platformie eNauczanie: Materiałoznawstwo II - W, ZiIP, 2 sem (M:31804W1) - Moodle ID: 12400 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=12400						
Additional information:							
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	30	3.0	17.0	50		
Subject objectives	The aim of the lecture is to introduce the students with selected issues of the modern materials engineering						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_K01	The student understands the need to improve professional skills.			[SK2] Assessment of progress of work		
	K6_U01	The student is able to use scientific databases through library catalogs.			[SU4] Assessment of ability to use methods and tools		
	K6_W02	The student has knowledge about structure and fundamental properties of structural materials.			[SW1] Assessment of factual knowledge		
Subject contents	Non-ferrous alloys. Aluminum and its alloys. Titanium and its alloys. Copper and its alloys. Zirconium and its alloys. Tool and bearing steels. Corrosion-resistant steels. Thermo-chemical treatment						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Colloquium from the lecture	51.0%			50.0%		
	Laboratory classes	100.0%			50.0%		

Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Michael Ashby, Hugh Shercliff and David Cebon, <i>Materials Engineering, Science, Processing and Design</i>, Elsevier Ltd, 2007 2. Michael Ashby, David Jones, <i>Engineering Materials 1, An Introduction to Properties, Applications, and Design</i>, Elsevier Ltd, 2012 3. Michael Ashby, David Jones, <i>Engineering Materials 2, An Introduction to Microstructures and Processing</i>, Elsevier Ltd, 2013
	Supplementary literature	<ol style="list-style-type: none"> 1. W. D. Callister, Jr., <i>Materials science and engineering, an introduction</i>, 7th ed., Wiley, 2007, 2. A.J. Moulson, , J.M. Herbert, <i>Electroceramics, Materials Properties and Applications</i>, Chapman and Hall, 1990 3. R. Pampuch, <i>An Introduction to Ceramics</i>, Springer International Publishing Switzerland, 2014
	eResources addresses	<p>Materialoznawstwo II - W, ZiIP, 2 sem (M:31804W1) - Moodle ID: 12400 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=12400</p>
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Non-ferrous metals. Definition of metal alloy and alloying additives. Classification of non-ferrous alloys. 2. Light metals - characteristics of titanium and its alloys. 3. Heavy metals - characteristics of copper and its alloys. 	
Work placement	Not applicable	