GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Introduction to Materials Science - laboratory, PG_00029486		
Field of study	Nanotechnology		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2021/2022
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	2	Language of instruction	Polish
Semester of study	3	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. Magdalena Jażdżewska	
	Teachers	dr inż. Magdalena Jażdżewska dr inż. Beata Majkowska-Marzec dr inż. Marcin Wekwejt	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	15.0	0.0	0.0	15

E-learning hours included: 0.0

Adresy na platformie eNauczanie:
Podstawy nauki o materiałach - laboratorium - Moodle ID: 19762
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19762

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

The aim of of the lecture is gaining the knowledge on fundamentals of materials engineering and construction and fucntional materials.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_K04	Students can work in groups.	[SK1] Assessment of group work skills
K6_W06	The student has basic and in-depth knowledge of the structure of crystals and amorphous bodies, bonds in solids, defects in the crystal structure and their impact on the properties of materials.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Division and general characteristics of the materials. Of alloys. System phase balance iron carbon and iron-cementite. Alloys of iron with carbon steel, cast steel and cast iron. Heat treatment and thermo - chemical non-alloyed steels.

Prerequisites and co-requisites

Knowledge of the lecture Fundamentals of Materials Science II.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Report from lab exercise	50.0%	50.0%
Preliminary test	50.0%	50.0%

Recommended reading	Basic literature	1. Blicharski M.: Inżynieria materiałowa. Stal. WNT, Warszawa 2004. 2. Blicharski M.: Wstęp do inżynierii materiałowej. WNT, Warszawa 2004. 3. Dobrzański L.A.: Podstawy nauki o materiałach i metaloznawstwo. WNT, Warszawa, 2002 4. Grabski W., Kozubowski J.: Istota inżynierii materiałowej - geneza, istota, perspektywy. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2003. 5. Praca zbiorowa pod red. M. Głowackiej i A. Zielińskiego: Materiałoznawstwo. Wyd. Politechniki Gdańskiej, Gdańsk 2011 (strona sieciowa Politechniki Gdańskiej).
	Supplementary literature	1. Dobrzański L.A.: Metalowe materiały inżynierskie. WNT Warszawa 2004 2. Przybyłowicz K.: Metaloznawstwo. WNT, Warszawa 2003.
	eResources addresses	Podstawy nauki o materiałach - laboratorium - Moodle ID: 19762 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19762
Example issues/ example questions/ tasks being completed	1. Research metallographic 2. Effect on the properties of the metal matrix graphite cast iron 3. Draw the equilibrium phase diagram iron - cementite 4. Selection of temperature hardening steel 5. What is carried out carburizing	
Work placement	Not applicable	