



Subject card

Subject name and code	, PG_00039654						
Field of study	Materials Engineering, Materials Engineering, Materials Engineering						
Date of commencement of studies	February 2022		Academic year of realisation of subject			2022/2023	
Education level	second-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	1		Language of instruction			Polish	
Semester of study	2		ECTS credits			2.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Solid State Physics -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Tomasz Klimczuk				
	Teachers		prof. dr hab. inż. Tomasz Klimczuk				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	15.0	45
	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	45		2.0		3.0	50
Subject objectives	The aim of the course is to present basis of the superconductivity, and then thoroughly discuss the most important superconducting compounds.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	K7_U01		Will not how to get information.			[SU2] Assessment of ability to analyse information	
	K7_W01		Will learn history of superconductivity.			[SW1] Assessment of factual knowledge	
Subject contents	<ul style="list-style-type: none"> • Superconducting metals; • Superconductive alloys; • Antyperovskites; • Borocarbides; • MgB₂; • Non-centrosymmetric superconductors; • High temperature superconductors based on CuO₂; • "Wet" superconductor; • Iron based superconductors; • Exotic superconductivity. 						
Prerequisites and co-requisites	Basic knowledge of the inorganic synthesis methods. Basic knowledge of crystallography.						
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade	
	final test		55.0%			80.0%	
	seminar		55.0%			20.0%	

Recommended reading	Basic literature	A.C. Rose-Innes, E.H.Rhoderick: „Superconductivity”
	Supplementary literature	Physical Review B, Physical Review M, Superconductor Science and Technology
	eResources addresses	
Example issues/ example questions/ tasks being completed	What is the highest reported T_c and for which material?	
Work placement	Not applicable	