



## Subject card

Subject name and code	Functional Materials II, PG_00039626						
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				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				3.0	
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. Maria Gazda					
	Teachers	prof. dr hab. inż. Maria Gazda dr inż. Sebastian Wachowski dr hab. inż. Aleksandra Mielewczyk-Gryń					
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	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	5.0		25.0	75	
Subject objectives	New materials and technologies for energy conversion and data storage						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_K01	student understands necessity of permanent learning			[SK2] Assessment of progress of work		
	K7_W07	student has knowledge about new trends in materials science			[SW2] Assessment of knowledge contained in presentation		
	[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	is prepared for activities in English			[SK4] Assessment of communication skills, including language correctness		
K7_W03	student has knowledge in physics chemistry and mathematics for solving problems in materials science			[SW1] Assessment of factual knowledge			
Subject contents	Technologies and materials for photovoltaics						
	Technologies and materials for hydrogen - and other energy sources						
	Photonics						
	Technologies and materials for data storage						
Prerequisites and co-requisites	no						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written test	51.0%	60.0%
	lab assesment	51.0%	20.0%
	seminar presenntation and presence	51.0%	20.0%
Recommended reading	Basic literature	scientific papers	
	Supplementary literature	eny	
	eResources addresses		
Example issues/ example questions/ tasks being completed	antireflection materials		
	materials for hydrogen storage		
Work placement	Not applicable		