



Subject card

Subject name and code	New technologies of nanomaterials, PG_00069747						
Field of study	Nowe technologie nanomateriałów						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		Subject group		Specialty 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		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Wojciech Sadowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	15.0	0.0	30
	E-learning hours included: 0.0						
	Additional information: Zajęcia laboratoryjne i projektowe prowadzone w Instytucie Wysokich Ciśnień PAN w Warszawie - dr Marta Sawicka						
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		5.0		40.0	75
Subject objectives	The aim of the course is to familiarize students with the latest thin-film and nanostructured technologies.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W01] has extended and organized knowledge of materials science.		The student has extended and structured knowledge in the field of materials science.		[SW1] Ocena wiedzy faktograficznej		
	[K7_U02] has enhanced abilities in laboratory work.		The student has in-depth skills in laboratory work.		[SU4] Ocena umiejętności korzystania z metod i narzędzi		
Subject contents	Course content – laboratory Optical lithography.						
	High resolution lithography.						
	Metal-organic vapor phase epitaxy (MOVPE).						
	Design of thin-film nanostructures.						
	Course content – project Optical lithography.						
	Metal-organic vapor phase epitaxy (MOVPE).						
Design of thin-film nanostructures.							

Prerequisites and co-requisites	Passed all 1st and 2nd semester subjects in the fields of Technical Physics, Nanotechnology or Materials Engineering at the Faculty of FTiMS		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		100.0%	30.0%
		100.0%	70.0%
Recommended reading	Basic literature	1. Bangwei Hang; Physical Fundamentals of Nanomaterials; Elsevier, 2018 2. Donglu Shi, Zizheng Guo and Nicholas Bedford; Nanomaterials and Devices; Elsevier, 2015	
	Supplementary literature	Donglu Shi, Zizheng Guo and Nicholas Bedford; Nanomaterials and Devices; Elsevier, 2015	
	eResources addresses		
Example issues/ example questions/ tasks being completed	The issues concern the implementation of laboratory work topics.		
Practical activities within the subject	Not applicable		

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