GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00052078		
Field of study	Nanotechnology		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2022/2023
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	4	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Instytut Nanotechnologii i Inżynierii Materiałowej -> Faculty of Applied Physics and Mathematics		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Maria Gazda	
	Teachers	dr inż. Sebastian Wachowski Daniel Jaworski prof. dr hab. inż. Maria Gazda Michał Maciejewski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	0.0	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	50.0	100

Subject objectives

Understanding the properties, structure and applications of functional nanomaterials

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_U09	Has the ability to design and implement functional nanomaterials manufacturing processes.	[SU1] Assessment of task fulfilment
K6_W07	Has systematic knowledge of the physical and chemical basics of obtaining functional nanomaterials.	[SW1] Assessment of factual knowledge
K6_U10	Is able to predict and assess the potential negative biological and ecological effects of the production of nanomaterials.	[SU3] Assessment of ability to use knowledge gained from the subject
K6_W06	Basic knowledge of materials science (size influence on structure and properties)	[SW1] Assessment of factual knowledge
K6_U06	Is able to present in a simple and accurate way technological and scientific problems related to the production and application of functional nanomaterials and to initiate and coordinate interdisciplinary cooperation	[SU5] Assessment of ability to present the results of task

Subject contents

Introduction: nanomaterials, nanostructures;Nanomaterials and nanostructures with specific functions resulting from the properties:electric;optical;magnetic;other;

Prerequisites and co-requisites

no

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	laboratory reports	50.0%	40.0%
	written test	50.0%	60.0%
Recommended reading	Basic literature	Nanotechnologia w praktyce, K. Żelechowska	
	Supplementary literature	any scientific literature	
	eResources addresses	Uzupełniające Adresy na platformie eNauczanie: Nanomateriały funkcjonalne - Moodle ID: 27780 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27780	
Example issues/ example questions/ tasks being completed	Effect of Size on Melting Point;Optical properties of nanometal;What is superparamagnetism?		
Work placement	Not applicable		