GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electronic and magnetic materials, PG_00069741		
Field of study	Nanotechnology		
Date of commencement of studies	February 2025	Academic year of realisation of subject	2024/2025
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	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Strongly Correlated Electronic Systems -> Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Tomasz Klimczuk	
	Teachers		

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

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30122

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

The aim of the course is to familiarize students with the processes of inorganic material synthesis.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U07] can apply the obtained specialist knowledge to the problems within exact sciences, natural or technical sciences.	A female student, but also a male student, can apply hard-earned knowledge to all kinds of issues.	[SU5] Assessment of ability to present the results of task
[K7_W02] has enhanced, theoretically supported, detailed knowledge of selected branches of nanotechnology and, according to the needs, within the scope of related fields of science and technology.	Students have in-depth theoretical knowledge of nanotechnology and are eager to share it.	[SW1] Assessment of factual knowledge

Subject contents

1. synthesis
2. crystallographic studies
3. measurements of physical properties
4. data analysis

Prerequisites and co-requisites

basis of crystallography

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
final exam	60.0%	100.0%

Recommended reading

Basic literature	C.A. Wert, R.M. Thomson, Solid State Physics
Supplementary literature	Ch. Kittel Solid state physics
eResources addresses	

Example issues/ example questions/ tasks being completed	What is the centering and a crystal lattice constant for cesium chloride. Propose a method for synthesizing magnesium diboride. Discuss the phenomenon of paramagnetism.
Work placement	Not applicable

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