GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Dielectric Materials, PG_00035137		
Field of study	Nanotechnology		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	1.0
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	dr hab. inż. Natalia Wójcik	
	Teachers	dr hab. inż. Natalia Wójcik	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	0.0	0.0	15

Subject objectives

Learning about the modern amorphous materials and technological issues associated with their use.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W06		
K6_W07		

Subject contents

- Electrical properties of dielectrics - basic concepts. Macroscopic properties of dielectrics.
- Electrical properties of dielectrics - dielectric polarization mechanisms
- Electrical conduction mechanisms in dielectrics
- Dielectric in the alternating electric field - the description in the frequency domain.
- Dielectric in the alternating electric field - a time domain.
- Measurements of electrical parameters of dielectrics
- Impedance spectruscopy in use
- Dielectrics with special properties
- Basic applications dielectrics.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Colloquium	51.0%	100.0%

Recommended reading

Basic literature

- *Fizyka dielektryków*, *A. Chełkowski; PWN, 1972, 1993.*
- *Elektrolity Stałe*, *Władysław Bogusz, Franciszek Krok; WNT, 1995.*

Supplementary literature: None

eResources addresses: Adresy na platformie eNauczanie:
Materiały dielektryczne - Moodle ID: 37750
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37750

Example issues/ example questions/ tasks being completed

Describe process of orientational polarization.

Work placement

Not applicable