GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electricity and magnetism, PG_00061906		
Field of study	Materials Engineering		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
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	3	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Division of Ceramics -> Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Tadeusz Miruszewski	
	Teachers	dr inż. Sebastian Wachowski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	30.0	0.0	0.0	75

E-learning hours included: 0.0

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/

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	75	10.0	65.0	150

Subject objectives

Acquiring knowledge in the field of electricity and magnetism.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W02] has knowledge of physics and chemistry, useful for formulating and solving simple problems within the scope of materials science	The student uses commonly used mathematical notation in physical calculations and solves physical problems. Is able to explain the basic concepts of electricity and magnetism.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
[K6_K01] Understands the need to improve professional and personal competencies; is conscious of own limitations and knows when to turn to experts, properly establishes priorities helping to accomplish tasks defined by oneself or others.	The student uses commonly used mathematical notation in physical calculations and solves physical problems. Is able to explain basic concepts of physics.	[SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice
[K6_U01] Can properly use selected analytical, simulation and experimental methods, as well as devices for measuring the fundamental properties of materials and technological processes.	the student is able to perform basic measurements in the field of electricity and magnetism.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

Subject contents

Electric field issues, magnetic phenomena.

Prerequisites and co-requisites

knowledge of physics from the previous semester

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	50.0%	40.0%
	laboratory	50.0%	20.0%
	accounting classes	50.0%	40.0%
Recommended reading	Basic literature	M.A. Herman A. Kalestyński, L. Widomski "Podstawy fizyki dla kandydatów na wyższe uczelnie i studentów" PWN J. Massalski "Fizyka dla inżynierów" NT Fizyka, tom 2, wyd. OpenStax	
	Supplementary literature	D. Halliday, R. Resnick, J. Walker Podstawy fizyki,PW	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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