



Subject card

Subject name and code	Physics II, PG_00040165						
Field of study	Mechanical Engineering						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	2		ECTS credits		1.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Division Of Automation And Marine Energy -> Institute Of Naval Architecture -> Faculty Of Mechanical Engineering And Ship Technology -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Małgorzata Śmiałek-Telega				
	Teachers						
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		3.0		7.0	25
Subject objectives	Student knows the basics od electricity and magnetism; student is familiar with the concept of electromagnetic waves						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_W02		The student has knowledge of modern physics.		[SW1] Assessment of factual knowledge		
	K6_U01		The student can solve a physical problem on the basis of data taken from sources.		[SU1] Assessment of task fulfilment		
Subject contents	Electricity: Electric charge and electric field, Gauss' law, electric field potential, capacitance; current and resistance. Magnetic field, magnetic induction; magnetic field from current-carrying wires. Electromagnetic waves: propagation of waves, Poyntings vector, spectrum of electromagnetic waves.						
Prerequisites and co-requisites	Course credit Physics I						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	final test		50.0%		100.0%		
Recommended reading	Basic literature		Halliday & Resnick FUNDAMENTALS OF PHYSICS by J EAR L WALKER, 10th edition (extended), Wiley, 2014				
	Supplementary literature		University Physics Volume1, 2 and 3				
			https://openstax.org/details/books/university-physics-volume-1				
			https://openstax.org/details/books/university-physics-volume-2				
			https://openstax.org/details/books/university-physics-volume-3				
	eResources addresses		Adresy na platformie eNauczanie:				

Example issues/ example questions/ tasks being completed	Let k denote $1/4\epsilon_0$. What is the magnitude of the electric field at a distance r from an isolated point charge q? A point charge is placed at the center of a spherical Gaussian surface. When is the electric flux Φ_E changed? A hydrogen atom that has lost its electron is moving east in a region where the magnetic field is directed from south to north. Which direction will it be deflected?
Work placement	Not applicable

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