



Subject card

Subject name and code	Physics 2, PG_00061676						
Field of study	Recycling and Energy Recovery						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2023/2024		
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			Polish		
Semester of study	2	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Instytut Nanotechnologii i Inżynierii Materiałowej -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Anna Rybicka				
	Teachers		dr inż. Anna Rybicka				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	30.0	0.0	0.0	0.0	50
	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	50		5.0		45.0	100
Subject objectives	Learning and understanding of basic physical phenomena. Analysis of physical phenomena and solving technical problems based on the physical laws.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W01] demonstrates knowledge and understanding of mathematics and other exact sciences and engineering disciplines at the level necessary to solve theoretical, engineering and technological problems and issues.		Student knows fundamental physical problems. Student understands physical laws and can analyze technical problems in their basis.		[SW1] Assessment of factual knowledge		
	[K6_U01] applies knowledge of mathematics and other exact sciences and engineering disciplines to solve theoretical, engineering and technological problems and issues.		Student can solve physical problems, analyze results and formulate conclusions.		[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyze information		
Subject contents	Basic laws of electricity and magnetism (Coulomb's, Gauss's, Ampere's, Biot-Savart's, Faraday's laws). Basic laws of geometric and wave optics. Quantum theory of light. Models of an atom. Radioactivity.						

Prerequisites and co-requisites	Knowledge of the issues covered in the course of Physics I.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Three practical tests	50.0%	60.0%
	Theory exam	50.0%	40.0%
Recommended reading	Basic literature	www.ftims.pg.edu.pl/Studenci/Materiały dydaktyczne (University Physics) Ohanian, Markert, Physics for Engineers and Scientists, NY Norton, 2007	
	Supplementary literature	P.Tipler, R.Llewellyn, "Modern Physics"	
	eResources addresses	Adresy na platformie eNauczenie:	
Example issues/ example questions/ tasks being completed	<p>1. Determine the electric field, coming from a given distribution of point charges.</p> <p>2. Describe the motion of a charged particle in a magnetic field.</p> <p>3. Determine the velocity of electrons in the photoelectric effect.</p> <p>4. Determine the energy of the electron according to Bohr's postulates.</p>		
Work placement	Not applicable		