GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics, PG_00044539		
Field of study	Transport		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	1	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Solid State Physics -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Anna Rybicka	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	45.0	0.0	0.0	0.0	75

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	75	5.0	70.0	150

Subject objectives

Learning the basic laws of classical physics. Developing of ability to analyze physical phenomena and solving technical problems based on the physical laws.

Learning outcomes

Course outcome	Subject outcome	Method of verification

Subject contents

Course content – lecture
Kinetics of progressive and rotational motion.

Newton's principles.Dynamisc of progressive and rotational motion.

Work and energy. Principles of conservation of momentum and energy.

Harmonic and wave motion.

Electrostatic. Coulomb's and Gauss's laws,

Electric current. Ohm's and Kirchhoff's laws.

The magnetic fiels. Ampere's, Biot's - Savart's and Faraday's laws.

Maxwell's exuations.

Prerequisites and co-requisites

Course for Students, who completed mathematisc and physics at the advanced level in the secondary school.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test 1	50.0%	30.0%
Exam	50.0%	40.0%
Test 2	50.0%	30.0%

Recommended reading	Basic literature	e-book "University Physics" (www.ftims.pg.edu.pl/Studenci/Materiały dydaktyczne) D.Halliday, R.Resnick, J.Walker, "Fundamentals of physics", Jon Willey &Sons, 2001
	Supplementary literature	J.Orear, "Physics", Macmillan Publishing Co.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Equations of motion in the gravitational field. Elastic and inelastic collisions. Moment of inertia of the rigid body. Mathematical and physucal pendulum. Electric field strenght and potential. Field superposition. Movement of charge in an electric and magnetic fields. Magnetic field around a current carrying conductor.	
Practical activites within the subject	Not applicable	

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