

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics, PG_00044539								
Field of study	Transport								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2022/2023			
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								
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Anna Rybicka						
	Teachers		dr inż. Anna Rybicka						
			mgr inż. Robert Kozioł						
			dr hab. inż. Natalia Wójcik						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	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 ir classes include plan		I didactic 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			
	[K6_W02] has basic knowledge of physics which includes technical mechanics, fluid mechanics, solid state physics, optics and acoustics required for understanding basic phenomena of physics which occur in transport		Student can recognize physical phenomena. Student can formulate, understand and use basic laws and principles.			[SW1] Assessment of factual knowledge			
	[K6_W03] has basic knowledge of hydromechanics, thermodynamics, machine design, materials science and electrical engineering required for understanding the principles of construction and operation of means of transport		Student knows fundamental problems of classical physics. Student understands physical laws and based on them can analyze technical problems.			[SW1] Assessment of factual knowledge			
	[K6_U06] able to plan and conduct simple laboratory and operational experiments and simulations in the area of transport; able to interpret the results and formulate conclusions		Student can analyze experimental results and knows how to formulate conclusions based of them.			[SU4] Assessment of ability to use methods and tools			

Subject contents	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.							
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Prerequisites	Course for Students, who completed mathematisc and physics at the advanced level in the secondary school.							
Assessment methods	Subject passing criteria	Passing threshold	Porcontago of the final grade					
and criteria	Test 1	50.0%	30.0%					
	Exam	50.0%	40.0%					
	Test 2	50.0%	30.0%					
Decommonded reading	Basic literature	e-book "I Iniversity Physics" (www.f	tims og edu pl/Studenci/Materiały					
Recommended reading		dydaktyczne)	ins.pg.edd.pi/Studenci/Materialy					
	D.Halliday, R.Resnick, J.Walker, "Fundamentals of physics", Jon Willey							
	Supplementary literature	J.Orear, "Physics", Macmillan Publishing Co.						
	eResources addresses	Adresy na platformie eNauczanie:						
		FIZYKA I_TRANSPORT_22/23 - Moodle ID: 23339						
Evennle ieevee/	Equations of motion in the gravitational field							
example questions/	-quations of motion in the gravitational field.							
tasks being completed								
	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.							
Work placement	Not applicable							