



Subject card

Subject name and code	Physics I, PG_00050089						
Field of study	Geodesy and Cartography						
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	1	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
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 Hanna Świątek					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	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	60	0.0		40.0		100
Subject objectives	Learning the basic laws of classical physics. Analysis of physical phenomena and solving technical problems based on the physical laws.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W01] has knowledge and understands the concepts of physics which allow to use optical and immersive instruments as well as positioning and satellite imaging		The student knows fundamental problems of classical physics; understand physical laws and on their basis can analyze technical problems.		[SW1] Assessment of factual knowledge		
	[K6_U01] can apply the principles of physics and mathematics to a simple verification of measurement and computational methods and their results		The student is able to analyze experimental results and formulate conclusions based of them.		[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 analyse information		
Subject contents	Kinetics of progressive and rotational motion. Newton's laws. Dynamics of progressive and rotational motion. Work and energy. Principles of conservation of momentum and energy. Harmonic and wave motion. Elements of special relativity.						

Prerequisites and co-requisites	Course for students who completed mathematics 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 II	50.0%	50.0%
	test I	50.0%	50.0%
Recommended reading	Basic literature	e-book: UNIVERSITY PHYSICS (www.ftims.pg.edu.pl/Studenci/Materialy_dydaktyczne) Resnick, Halliday, Walker, FUNDAMENTALS OF PHYSICS, John Wiley&Sons, Inc.	
	Supplementary literature	Orear, PHYSICS, Macmillan Publishing Co.	
	eResources addresses	Adresy na platformie eNauczenie: FIZYKA I - GEODEZJA i KARTOGRAFIA _23/24 - Moodle ID: 30538 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=30538	
Example issues/ example questions/ tasks being completed	Kinematic equations of motion in gravitational field. Bodies systems - forces. Elastic and inelastic collisions. Rotary movement. Rolling without skidding. Mathematical and physical pendulum. Length contraction, time dilation. Rest energy and total energy, relativistic momentum.		
Work placement	Not applicable		

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