GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics I, PG_00050089		
Field of study	Geodesy and Cartography		
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	4.0
Learning profile	general academic profile	Assessment form	assessment
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	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_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.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools
[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 od classical physics; understand physical laws and on their basis can analyze technical problems.	[SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
Kinetics of progresive and rotational motion.

Newton's laws.Dynamics of progresive 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 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 I	50.0%	50.0%
	test II	50.0%	50.0%
Recommended reading	Basic literature	e-book: UNIVERSITY PHYSICS (www.ftims.pg.edu.pl/Studenci/ Materiały dydaktyczne) Resnick, Halliday, Walker, FUNDAMENTALS OF PHYSICS, John Wiley&Sons, Inc.	
	Supplementary literature	Orear, PHYSICS, Macmillam Publishing Co.	
	eResources addresses		
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. Lenhth contraction, time dilation. Rest energy and total energy, relativistic momentum.		
Practical activites within the subject	Not applicable		

Document generated electronically. Does not require a seal or signature.