GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00052067					
Field of study	Nanotechnology					
Date of commencement of studies	October 2021		Academic year of realisation of subject		2021/2022	
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study	
					Subject group related to scientific research 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		7.0	
Learning profile	general academic profile		Assessment form		assessment	
Conducting unit	Instytut Nanotechnologii i Inżynierii Materiałowej -> Faculty of Applied Physics and Mathematics					
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Beata Bochentyn				
	Teachers	dr hab. inż. Natalia Wójcik				
		dr hab. inż. Beata Bochentyn				

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	60.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19035 Adresy na platformie eNauczanie: Fizyka I 2021 (zajęcia z B.Bochentyn) - Moodle ID: 19366 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19366 Fizyka I 2021 (zajęcia z B.Bochentyn) - Moodle ID: 19366 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19366						

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	15.0	100.0	175

Subject objectives	This course provides a general education in the basic principles of classical physics,

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_U02	The student solves the classical physics problems. He can analyze physical phenomena by making necessary drawings. It derives the final results from the physical laws, performs calculations and derives final results. He applies the conversion of units and performs numerical calculations.	[SU4] Assessment of ability to use methods and tools
	K6_W03	The student knows the basic problems of classical mechanics, in particular kinematics and dynamics of translational and rotational motion. He can describe the harmonic motion and mechanical waves	[SW1] Assessment of factual knowledge
	K6_U01	The student prepares to solve physics problems using the recommended textbooks. He remembers basic physical laws and understands them.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject

Subject contents	Physics is a first-year physics course which introduces students to classical mechanics. Topics include: space and time; straight-line kinematics; motion in a plane; forces and equilibrium; Newton"s laws of dynamics; particle dynamics; collisions and conservation laws; work and potential energy; vibrational motion; conservative forces; inertial forces and non-inertial frames; rigid bodies and rotational dynamics, harmonic motion and mechanical waves; thermodynamics; electrostatics and direct current circuits; magnetism
Prerequisites and co-requisites	Course is dedicated for students that not have taken high school physics and mathematics at extended level.

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	three tests during the semestr	50.0%	100.0%

Recommended reading	Basic literature	D.Halliday, R.Resnick, J.Walker, Funadamental of physics, Wiley
	Supplementary literature	Ohanian, Markert, Physics for Engineers and Scientists, vol.1, 3rd ed., New York, NY: Norton, 2007. ISBN:9780393930030
	eResources addresses	Fizyka I 2021 (zajęcia z B.Bochentyn) - Moodle ID: 19366 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19366 Fizyka I 2021 (zajęcia z B.Bochentyn) - Moodle ID: 19366 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=19366

Example issues/ example questions/ tasks being completed	The position of a particle changes from r 1=(2.0i+3.0j)cm to r 2=(4.0i+3.0j)cm. What is the particles displacement? A body of mass *m* moves in a horizontal direction such that at time *t* its position is given by x(t)=at4+bt3+ct, where *a*, *b*, and *c* are constants. (a) What is the acceleration of the body? (b) What is the time-dependent force acting on the body?
Work placement	Not applicable