



Subject card

Subject name and code	, PG_00058870						
Field of study	Nanotechnology						
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 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		6.0		
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. Beata Bochentyn dr inż. Leszek Wicikowski dr inż. Marta Przeźniak-Welenc				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	0.0	45
	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	45		15.0		90.0	150
Subject objectives	Getting to know the basic laws of classical physics. Acquiring the ability to analyze physical phenomena and solve technical problems based on the laws of physics.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_U02		The student prepares to solve physical problems using the recommended textbooks. Recognizes and understands basic physical laws. Acquires the ability to analyze experimental data. Can analyze physical phenomena by making the necessary drawings. He obtains the final results by deriving them from the laws of physics. Applies unit conversion and performs numerical calculations.		[SU5] Assessment of ability to present the results of task [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		
	K6_U01		The student is able to independently acquire and systematize knowledge in the field of physics from Polish or English academic textbooks and other sources of scientific knowledge. The student is able to assess the reliability of the analyzed sources.		[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		
	K6_W03		The student knows the basic issues of classical mechanics, kinematics and dynamics of translational and rotational motion. He can describe vibrational and wave motion, knows the basic problems of thermodynamics, electricity and magnetism.		[SW1] Assessment of factual knowledge		

Subject contents	Physics in an experiment introduces students to issues related to various branches of physics, which will be explained on the basis of experimental demonstrations. The topics of the classes are: uniform and uniformly variable linear motion, projections: vertical, horizontal and oblique, Newton's dynamics of progressive motion of a material point, principles of conservation of energy and momentum in a progressive motion, rotation of a material point and a rigid body, simple and damped vibrating motion, waves mechanical, optics, thermodynamics, electrostatics, electric circuits, magnetic field.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final exam from the lecture part	50.0%	50.0%
	Final mark from tutorial	50.0%	50.0%
Recommended reading	Basic literature	[1] K. Jezierski, K. Sierański, I.Szlufarska, <i>Fizyka -- Repetytorium, zadania z rozwiązaniami, kurs powtórkowy dla studentów I roku i uczniów szkół średnich</i> , Oficyna Wydawnicza Scripta, Wrocław 2005 [2] M.Herman, A.Kalestyński, L.Widomski, <i>Podstawy Fizyki dla kandydatów na wyższe uczelnie i studentów</i> , WN PWN, Warszawa 2004 [3] J.Jędrzejewski, W.Kruczek, A.Kujawski, <i>Zbór zadań z fizyki dla uczniów szkół średnich i kandydatów na studia</i> , WNT, Warszawa, 2000 [4] D.Halliday, R.Resnick, J.Walker, <i>Podstawy Fizyki</i> , PWN, Warszawa	
	Supplementary literature	[1] D.Halliday, R.Resnick, J.Walker, <i>Podstawy Fizyki, Zbiór zadań</i> , PWN, Warszawa [2] Zbiór zadań z fizyki, skrypt Politechniki Gdańskiej, http://www.mif.pg.gda.pl/zz/ [3] W.Moebs, S.J.Ling, J.Sanny, <i>Fizyka dla szkół wyższych</i> , Tom 1, OpenStax Polska https://openstax.org/details/books/fizyka-dla-szk%C3%B3%C5%82-wy%C5%BCszych-tom-1	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		