GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00058870		
Field of study	Nanotechnology		
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 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	

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_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
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.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject
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.	[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 [SU5] Assessment of ability to present the results of task

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 mark from tutorial	50.0%	50.0%
Final exam from the lecture part	50.0%	50.0%

Recommended reading

Basic literature	[1] K. Jezierski, K. Sierański, I.Szlufarska, *Fizyka -- Repetytorium, zadania z rozwiązaniami, kurs powtórkowy dla studentów I roku i uczniów szkół średnich*, Oficyna Wydawnicza Scripta, Wrocław 2005 [2] M.Herman, A.Kalestyński, L.Widomski, *Podstawy Fizyki dla kandydatów na wyższe uczelnie i studentów*, WN PWN, Warszawa 2004 [3] J.Jędrzejewski, W.Kruczek, A.Kujawski, *Zbór zadań z fizyki dla uczniów szkół średnich i kandydatów na studia*, WNT, Warszawa, 2000 [4] D.Halliday, R.Resnick, J.Walker, *Podstawy Fizyki*, PWN, Warszawa
Supplementary literature	[1] D.Halliday, R.Resnick, J.Walker, *Podstawy Fizyki*, *Zbiór zadań*, 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, *Fizyka dla szkół wyższych*, Tom 1, OpenStax Polska *https://openstax.org/details/books/fizyka-dla-szk%C3%B3%C5%82-wy%C5%BCszych-tom-1*
eResources addresses	Podstawowe https://openstax.org/details/books/fizyka-dla-szk%C3%B3%C5%82-wy%C5%BCszych-tom-1 - College Physics - online, open access book Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	
Work placement	Not applicable