



Subject card

Subject name and code	Physical laboratory II, PG_00028407						
Field of study	Nanotechnology						
Date of commencement of studies	October 2021	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	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Zakład ceramiki -> Instytut Nanotechnologii i Inżynierii Materiałowej -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Tadeusz Miruszewski					
	Teachers	dr inż. Marta Prześniak-Welenc dr inż. Tadeusz Miruszewski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	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	30	2.0		18.0		50
Subject objectives	Introduction with the basic laws of classical physics. Verification of the theory in eksperymencie. Nabycie ability to analyze the results. The use of analysis of experimental data in practice.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_U04				[SU1] Assessment of task fulfilment		
	K6_W03				[SW1] Assessment of factual knowledge		
	K6_U01				[SU1] Assessment of task fulfilment		
Subject contents	Topics include: kinematics of linear motion, Newton's laws of motion, oscillatory motion, waves, mechanical, and rigid body dynamics traversing phase transitions bodies, elements of thermodynamics.						
Prerequisites and co-requisites	The course is dedicated to students who have completed a course of Physics II (sem. II)						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
			50.0%		100.0%		
Recommended reading	Basic literature		D. Halliday, R. Resnick, J. Walker, Fundamentals of Physics, Oxford University Press, M. Herman, A. Kalestyński, L. Widomski, Fundamentals of Physics for candidates for universities and students, WN PWN Warsaw http://ftims.pg.edu.pl/laboratorium-z-fizyki-i-pracownia				
	Supplementary literature		absence				

	eResources addresses	Adresy na platformie eNauczanie: Laboratorium z fizyki II _ 2022/2023_ semestr zimowy_ Nanotechnologia _ grupa T.Miruszewski - Moodle ID: 26639 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=26639 Laboratorium z fizyki II _ 2022/2023_ semestr zimowy_ Nanotechnologia _ grupa T.Miruszewski - Moodle ID: 26639 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=26639
Example issues/ example questions/ tasks being completed	Explain based on the internal structure of solids the difference between the area of plastic deformation and elastic deformation area; Heat definition phaseAs using the method of least squares determined from measurements of time free-fall acceleration due to gravity	
Work placement	Not applicable	