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## Subject card

Subject name and code	Physics, PG_00018183							
Field of study	Chemistry in Construction Engineering							
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		
Mode of study	Full-time studies		Mode of delivery			at the university		
Year of study	1		Language of instruction			Polish		
Semester of study	2		ECTS credits			6.0		
Learning profile	general academic pro	ofile	Assessment form			exam		
Conducting unit	Department of Theoretical Physics and Quantum Information -> Faculty of Applied Physics and Mathematics							
Name and surname	Subject supervisor		dr inż. Ewa Erdmann					
of lecturer (lecturers)	Teachers							
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
	Number of study hours	30.0	15.0	15.0	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		5.0		85.0		150
Subject objectives	Introduction to elementary methods and laws of physics							
Learning outcomes	Course outcome		Subject outcome			Method of verification		
	K6_W02		Knows fundamental physical laws and is able to solve concrete models			[SU1] Assessment of task fulfilment		
	K6_U02		Lab exercise allow to solve experimental physics problems in groups and individually			[SU2] Assessment of ability to analyse information		

Subject contents	Acoustics						
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	Fluid mechanics						
	Analysis of physical measurements						
	Kinetic theory of gases						
	Thermodynamics						
	Electric field						
	Electric current						
	Magnetic field						
	Electric network						
	Geometric optics						
	Wave optics						
	Old quantum theory						
	Atomic structure						
	Solid state physics						
Prerequisites and co-requisites	Passing the subject "physics"						
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade				
and criteria	exercises	51.0%	30.0%				
	exam	51.0%	50.0%				
	lab	51.0%	20.0%				
Recommended reading	Basic literature Dawid Halliday, Robert Resnick, Jearl Walker, Podstav 3 i 4, PWN, Warszawa 2006. Cz. Bobrowski. Fizyka. Krótki kurs. WNT, Warszawa (r wydanie).		arl Walker, Podstawy Fizyki, tomy 2, WNT, Warszawa (dowolne				
	Supplementary literature	Berkeley course of physics					
		"University Physics" openstax, 2018					
	eResources addresses Adresy na platformie eNauczanie:						
Example issues/ example questions/ tasks being completed	Gauss law for electric field and an example of its use.						
	Properties of the Hydrogen atom spectrum.						
	Calculation of measurement error using exact differential method						
Work placement	Not applicable						