

## GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Subject name and code	Physics I, PG_00048175								
Field of study	Civil Engineering								
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				
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			4.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Solid State Physics -> Faculty of Applied Physics and Mathematics								
Name and surname	Subject supervisor dr inż. Bogumiła Strzelecka, doc. PG								
of lecturer (lecturers)	Teachers	dr inż. Bogum	niła Strzelecka,	doc. PO	3				
		dr inż. Bartosz Trawiński							
		drinż Kacher Dzierzowski							
			dr ınz. Karolina Górnicka						
	dr inż. Sebastian Wachowski								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	30.0	30.0	0.0	0.0		0.0	60	
	E-learning hours included: 0.0								
	Adresy na platformie eNauczanie: Fizyka 1 Budownictwo - Moodle ID: 17728 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17728								
Learning activity and number of study hours	Learning activity	activity Participation in classes include plan		didactic Participation in ed in study consultation he		Self-st	udy	SUM	
	Number of study hours	60		7.0		33.0		100	
Subject objectives	To acquaint the student with the basic phenomena and laws of physics. Acquisition by the student of the ability to explain phenomena, draw conclusions and solve problems in the field of physics.								
Learning outcomes	Course outcome		Subject outcome		Method of verification				
	[K6_U02] is able to define basic calculation models used in computer calculations		Student solves accounting problems in physics and interprets the results obtained.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools			
						analyse [SU4] A use me	Assessment of e information Assessment of thods and tool	ability to ability to s	
	[K6_W01] has knowl selected branches of mathematics, physic: chemistry, which is a construction subjects construction theory a technology and id ne formulate and solve to problems of civil eng	edge of s and base of s, such as nd material eded to ypical ineering	Student define physics. The student u knowledge to and environm The student a physics to ide and solved pro	es the basic lav ses the acquire describe physi ental reality. pplies the laws ntified, formula oblems.	vs of ed cal of ted	[SU2] A analyse [SU4] A use me [SW1] A knowle	Issessment of e information Assessment of thods and tool Assessment of dge	ability to s factual	
Subject contents	[K6_W01] has knowl selected branches of mathematics, physic chemistry, which is a construction subjects construction theory a technology and id ne formulate and solve t problems of civil eng Space and time; mate point dynamics; rules harmonic movement; kinetic-molecular theo potential; Gauss law; characterizing the ma	edge of s and base of s, such as nd material eded to ypical ineering erial point kinen of behavior; w mechanical wa ory of transport electrostatic fie gnetic field.	Student define physics. The student u knowledge to and environm The student a physics to ide and solved pro- matics (rectiline ork and other fraves; kinetic-mo processes; ele- eld energy; elec-	es the basic lav ses the acquire describe physiental reality. pplies the laws thified, formula oblems. ar motion; motion; motion; orms of energy plecular theory ictric charges; ( stricity as a cha	vs of ed cal of ted ion on a ; conse of gase Coulom rge tran	[SU2] A analyse [SU4] A use me [SW1] A knowled [SW1] A knowled s; elem b's law; isport; b	ssessment of e information Assessment of thods and tool Assessment of dge Newton's law orces; rigid bo ents of thermo electric field; e pasic quantities	ability to s factual s; material dy dynamics; dynamics; electric field	
Subject contents Prerequisites and co-requisites	[K6_W01] has knowl selected branches of mathematics, physics chemistry, which is a construction subjects construction theory a technology and id ne formulate and solve f problems of civil eng Space and time; mate point dynamics; rules harmonic movement; kinetic-molecular theor potential; Gauss law; characterizing the ma The course is dedicat at a post-primary scho- compensatory classe	edge of s and base of s, such as nd material eded to ypical ineering rial point kiner of behavior; w mechanical wa ory of transport electrostatic fie gnetic field. ed to students sool. Students w s or increase th	Student define physics. The student u knowledge to and environm The student a physics to ide and solved pro- matics (rectiline ork and other for aves; kinetic-map processes; ele eld energy; elect who have com the have not come number of home	es the basic lav ses the acquire describe physi- ental reality. pplies the laws ntified, formula oblems. ar motion; moti orms of energy plecular theory ctric charges; ( ctricity as a cha pleted an adva pupleted such a ours of their ow	vs of ed cal of ted ion on a ; conse of gase Coulom rrge trar nced cc a cours <i>n</i> work	[SU2] A analyse [SU4] A use me [SW1] A knowled [SW1] A [SW1] A knowled [SW1] A [SW1] A [SW1] A	ssessment of e information Assessment of thods and tool Assessment of dge Newton's law orces; rigid bo ents of thermo electric field; e assic quantities physics and m d either comple ticipation in cc	ability to ability to s factual factual s; material dy dynamics; dynamics; electric field s mathematics ete mosultations.	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade			
	Colloquium on theoretical knowledge	51.0%	50.0%			
	auditorium exercises	51.0%	50.0%			
Recommended reading	Basic literature	Halliday D. Resnick R., Walker J. Fundamentals of physics vol. 1,2,3, PWN Warsaw 2010 Herman M.A., Kalestyński Widomski L. Fundamentals of Physics PWN 2009 Haliday D., Resnick R., Walker J. A set of tasks PWN Warsaw 2010 Jędrzejewski J. Kruczek W., Kujawski A. A set of tasks from the physics of WNT Warsaw 2008				
	Supplementary literature	Skorko M. Physics PWN Warsaw Cedrik M.S. A set of physics tasks				
	eResources addresses	Fizyka 1 Budownictwo - Moodle ID: 17728 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17728				
Example issues/ example questions/ tasks being completed	Demonstrate immutability of Newton's laws regarding Galileo's transformation Prove Steiner's theorem Derive the principle of conservation of momentum Demonstrate the equivalence of Gauss's Law and Coulomb's Law					
Work placement	Not applicable					