GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics, PG_00048910		
Field of study	Chemistry in Construction Engineering		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2020/2021
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	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Theoretical Physics and Quantum Information -> Faculty of Applied Physics and Mathematics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Ewa Erdmann	
	Teachers	dr inż. Ewa Erdmann	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	15.0	0.0	0.0	0.0	30

E-learning hours included: 0.0

Adresy na platformie eNauczanie:
Fizyka - Moodle ID: 10823
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=10823

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	5.0	40.0	75

Subject objectives

Introduction to the topics of classical mechanics

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W02	Knows fundamental physical structures and is able to solve concrete models	[SU1] Assessment of task fulfilment
K6_U02	Solving physics problems develops capabilities of individual work	[SU2] Assessment of ability to analyse information

<table>
<tr><td>Subject contents</td><td>Vectors

Velocity and acceleration as time derivatives

Newton's laws

Momentum conservation

Examples of forces

Potential forces

Examples of potentials

Work as an integral

Harmonic oscillator

Integration of Newton equations for various forces

Kinetic energy

Energy conservation for potential forces

Angular momentum

Rotations

Angular momentum conservation</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>no requirements</td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>exercises</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>exam</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>AK Wróblewski, JA Zakrzewski, Wstęp do fizyki, PWN, 1979</td></tr>
<tr><td>Supplementary literature</td><td>Berkeley course of physics</td></tr>
<tr><td>eResources addresses</td><td>Fizyka - Moodle ID: 10823
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=10823</td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Solve equations of motion of a harmonic oscillator

Prove that total energy in constant gravitational field is time-independent

Prove angular momentum conservation in a central potential</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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