GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Mechanics for engineers, PG_00061898		
Field of study	Materials 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 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	2	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Institute Of Nanotechnology And Materials Engineering -> Faculty Of Applied Physics And Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jakub Karczewski	
	Teachers	dr hab. inż. Jakub Karczewski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	30.0	0.0	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	60.0	125

Subject objectives

Getting to know the basic laws of classical physics. Acquiring the ability to analyze physical phenomena and technical issues based on the laws of physics.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U01] Can properly use selected analytical, simulation and experimental methods, as well as devices for measuring the fundamental properties of materials and technological processes.	The student is able to solve tasks related to the basics of classical physics. Knows basic research methods and ways of defining and determining basic physical quantities	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
[K6_U05] can learn independently	The student is able to use both traditional and modern methods of acquiring knowledge in the field of classical physics.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools
[K6_W02] has knowledge of physics and chemistry, useful for formulating and solving simple problems within the scope of materials science	The student has basic knowledge of classical mechanics, basic optics and thermodynamics	[SW1] Assessment of factual knowledge
[K6_K01] Understands the need to improve professional and personal competencies; is conscious of own limitations and knows when to turn to experts, properly establishes priorities helping to accomplish tasks defined by oneself or others.	The student has knowledge of the basics of classical physics. Understands the need to understand them in the context of solving professional problems. Is able to independently deepen knowledge in this area.	[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice

<table>
<tr><td>Subject contents</td><td>Algebra wektorów

Kinematyka

Dynamika

Zasady zachowania

Bryła sztywna

Drgania

Fale</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>knowledge of the basics of physics at high school level</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>oral exam</td><td>50.0%</td><td>30.0%</td></tr>
<tr><td>exam</td><td>40.0%</td><td>20.0%</td></tr>
<tr><td>colloquium on accounts</td><td>50.0%</td><td>50.0%</td></tr>
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</td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>M.Herman, A.Kalestyński, L.Widomski, Podstawy Fizyki dla kandydatów na wyższe uczelnie i studentów, WN PWN, Warszawa

J. Massalski, M. Massalska Fizyka dla Inżynierów, WNT Warszawa</td></tr>
<tr><td>Supplementary literature</td><td>D.Halliday, R.Resnick, J.Walker, Podstawy Fizyki, PWN, Warszawa</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:
mechanika dla inżynierów - Moodle ID: 38486
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38486</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">-</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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