GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics laboratory I (mechanics and heat), PG_00034522		
Field of study	Technical Physics		
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 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	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Physics of Electronic Phenomena -> Faculty of Applied Physics and Mathematics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Justyna Szostak	
	Teachers	dr inż. Justyna Szostak dr Małgorzata Franz	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	45.0	0.0	0.0	45

E-learning hours included: 0.0

Address on the e-learning platform: https://teams.microsoft.com/l/channel/19%3a0c5ad358ff644e6d848e9d5b5bd1ea5d%40thread.tacv2/Og%25C3%25B3lny?groupId=638b135f-c8fb-4512-ac4d-11f7f4e54380&tenantId=86760356-0022-486f-b793-a2d470bba5a5

Adresy na platformie eNauczanie:

Additional information:
Due to pandemic classes will be conducted in a hybrid mode. 20h of classes will be run delivered in-person, while the rest of the training will be carried out on-line via MS Teams, at the "Mechanika i ciepło, laboratorium" channel https://teams.microsoft.com/l/channel/19%3a0c5ad358ff644e6d848e9d5b5bd1ea5d%40thread.tacv2/Og%25C3%25B3lny?groupId=638b135f-c8fb-4512-ac4d-11f7f4e54380&tenantId=86760356-0022-486f-b793-a2d470bba5a5

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	45	5.0	50.0	100

Subject objectives

To acquire skills and knowledge how to carry out basic experiments and determine various physical quantities related to mechanics and heat.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W02	Possesses extended, detailed knowledge of mechanics and heat.	[SW1] Assessment of factual knowledge
K6_W08	Has extended knowledge on planning and conducting experiments and critical analyses of the obtained results.	[SW1] Assessment of factual knowledge
K6_W12	Knows principles of occupational safety and hygiene.	[SW1] Assessment of factual knowledge
K6_U04	Is able to plan and perform an experiment, critically analyze its results, and draw conclusions.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
K6_W07	Possesses basic knowledge on device structure and principles of operation of devices and measurement systems.	[SW1] Assessment of factual knowledge

<table>
<tr><td>Subject contents</td><td>1. Determination of liquid density.
2. Motion along a straight line with constant acceleration.
3. Free fall of a body analysis of the motion and determination of acceleration due to gravity.
4. Analysis of elastic collisions of two bodies.
5. Determination of a spring constants.
6. Determination of rotational inertia.
7. Determination of Youngs modulus.
8. Determination of an elastic modulus by Gauss method.
9. Investigation of a centripetal force.
10. Measuring thermal coefficient of linear expansion.
11. Measuring boiling temperature at various pressure.
12. Determination of thermal conductivity of selected materials.</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>Laboratory</td><td>60.0%</td><td>100.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>1. Materiały dydaktyczne na http://www.mif.pg.gda.pl/

2. D. Holliday, R. Resnick, J. Walker, Fundamental of Physics, 8th Edition, Wiley 2008.</td></tr>
<tr><td>Supplementary literature</td><td>No requirements</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Newton's law of gravity.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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