GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Strength of Materials II, PG_00039810		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	October 2021	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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Katarzyna Pytka	
	Teachers	mgr inż. Katarzyna Pytka	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15	1.0	9.0	25

Subject objectives	The purpose of the course is to familiarize students with the basic mechanical methods of materials testing.

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>K6_W06</td><td>The student has the ability to estimate the strength properties and technological properties of materials (static tensile/ compression/torsion test of metals), has the ability to determine the behavior of a material subjected to dynamic loading, has the ability to determine the longitudinal modulus of elasticity, learns the methods of testing the hardness of metals (Brinell, Rockwell, Vickers, Shore and Poldi hammer) and acquires the ability to estimate the deflection of a beam</td><td>[SW2] Assessment of knowledge contained in presentation
[SW3] Assessment of knowledge contained in written work and projects</td></tr>
<tr><td>K6_W05</td><td>The student has the ability to analyze the basic issues related to the strength of materials, in terms of theory and solving simple tasks and practical problems.</td><td>[SW1] Assessment of factual knowledge</td></tr>
<tr><td>K6_U01</td><td>The student is familiar with the testing machines used for each test and the types of specimens used, and has the ability to properly measure the specimens used for testing.</td><td>[SU4] Assessment of ability to use methods and tools</td></tr>
<tr><td>K6_U08</td><td>The student has the ability to prepare a report on the research carried out in class.</td><td>[SU2] Assessment of ability to analyse information
[SU1] Assessment of task fulfilment
[SU5] Assessment of ability to present the results of task</td></tr>
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<tr><td>Subject contents</td><td>Testing the hardness of metals. Tension/compression/torsion of metals.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>The student should have knowledge of mathematics, mechanics and basic knowledge of general properties of metals.</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></td><td>56.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Wojnicz W.,Wittbrodt E.:Mechanical Methods of Materials Testing, Gdansk University of Technology Publishing House, Gdansk 2020.</td></tr>
<tr><td>Supplementary literature</td><td>Katarzyński S., Kocańda S., Zakrzewski M.:Investigations of mechanical properties of metals, WNT, Warsaw 1967.</td></tr>
<tr><td>eResources addresses</td><td>Podstawowe
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33955 - E-learning course to support laboratory classes.
Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Realisation of tensile/compression diagrams. Determination of strength properties/determination of technological properties.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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