GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00056090		
Field of study	Mechanical and Medical Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	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	prof. dr hab. inż. Michał Wasilczuk	
	Teachers		

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	0.0	0.0	15

Subject objectives

Acquiring the skills to assess the condition and wear of machine parts. Acquiring the skills to select missing/ damaged machine parts. Acquiring the skills to restore and repair used machine parts.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U06] he/she has skills to work in industry and follow the rules of safety regulations, he/she is able to analyze basic economics problems to delineate the direction of solution by using engineering methods	After learning about the existing structure, the student is able to fit damaged/missing parts of the machine	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject
[K6_W07] he/she is able to design, manufacture and utilize machine parts and technical devices, he/she can prepare a technical documentation	the student creates technical documentation necessary to recreate the damaged part of the machine	[SW3] Assessment of knowledge contained in written work and projects
[K6_U08] he/she is able to assess whether proposed methods and tools can be used in practice to solve simple engineering task related to machine design, manufacturing and utilization	The student is able to prepare operational documentation, including measuring the necessary parameters, drawing conclusions and observations	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject
[K6_W13] he/she has knowledge related to application of engineering approaches in medicine or application of medical devices and rehabilitation devices	The student is able to choose elements of medical devices. He knows the latest market innovations in the field of wheelchair drives.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Laboratories:selection of an electric engine for a manual wheelchair, operation of the screw-orifice connection, experimental tests of the start-up of various types of clutches, preparation of an executive drawing of a used part of the machine based on a physical object - an executive drawing of the shaft, determination of the characteristics of a coil spring, operation of the chain block system in medical devices

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>laboratory report 1</td><td>50.0%</td><td>16.0%</td></tr>
<tr><td>laboratory report 6</td><td>50.0%</td><td>17.0%</td></tr>
<tr><td>laboratory report 5</td><td>50.0%</td><td>17.0%</td></tr>
<tr><td>laboratory report 4</td><td>50.0%</td><td>17.0%</td></tr>
<tr><td>laboratory report 3</td><td>50.0%</td><td>17.0%</td></tr>
<tr><td>laboratory report 2</td><td>50.0%</td><td>16.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Maciakowski R., Majewski W.: Sprzęgła - Wykład z podstaw Konstrukcji Maszyn z ćwiczeniami rachunkowymi. Wyd. Politechniki Gdańskiej

Kochanowski M. Podstawy konstrukcji Maszyn z rysunkiem technicznym. Wyd. Politechniki Gdańskiej

Kurmaz L.W., Kurmaz O.L.: Podstawy Konstruowania Węzłów i Części Maszyn. Wyd. Politechniki Świętokrzyskiej</td></tr>
<tr><td>Supplementary literature</td><td>Podstawy Konstrukcji Maszyn. Cykl monografii wydawanych przez PWN</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Choose an electric motor that can be installed in a wheelchair and allows you to transport a person weighing 80 kg on slopes up to 15 degrees for 8 hours.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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