GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Research laboratory, PG_00064934		
Field of study	Mechanical Engineering		
Date of commencement of studies	February 2027	Academic year of realisation of subject	2027/2028
Education level	second-cycle studies	Subject group	Specialty subject group Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Fluid-Flow Machinery -> Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Krzysztof Kosowski	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	0.0	9.0	0.0	9

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	9	3.0	13.0	25

Subject objectives

The main aim is to prepare students to research work (theoretical, design and experimental investigations), to give them basic principles of experimental design (planning), research methods and analysis of results, formulating conclusions and presentation of results

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U03] plans and carries out experimental investigations to determine the parameters of devices, processes or systems in the field of Mechanical Engineering and Mechanical Engineering, appropriately selects methods, techniques and tools, interprets results and estimates measurement errors	Student can explain the theoretical fundamentals of his example of a technical solution and experimental tests.	[SU1] Assessment of task fulfilment
[K7_W01] explains and describes, on the basis of general knowledge of the scientific disciplines forming the theoretical basis of Mechanics and Mechanical Engineering, the structure and principles of operation of mechanical systems and processes	Student can propose a simple technical solution (mechanical engineering type), design it, plan an experiment and perform tests.	[SW2] Assessment of knowledge contained in presentation
[K7_U14] integrates information obtained from literature and other properly selected sources, including those in a foreign language, creatively interpreting and critically evaluating them, and drawing conclusions	Student can discuss technical solutions (theoretical and used in practice), compare them to other examples, notice advantages and disadvantages.	[SU2] Assessment of ability to analyse information

Subject contents

Course content – project

Problems of experimental investigations (theoretical, design and experimental investigations), to give them basic principles of experimental design (planning), research methods and analysis of results, formulating conclusions and presentation of results

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>report</td><td>60.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>M. Korzyński, Metodyka eksperymentu, PWN WNT, wyd.2 , 2021 (in Polish)

Literature will be suggested by lecturer according to the particular tasks</td></tr>
<tr><td>Supplementary literature</td><td>Literature will be suggested by lecturer according to the particular tasks</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">1. Propose an experimental model of steam marine propulsion system.

2. Propose an experimental model of steam turbine.

3. Propose a method for rigid rotor balancing.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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