GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fluid-flow machinery, PG_00064858		
Field of study	Mechanical Engineering		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	Specialty subject group 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	English
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Energy and Industrial Apparatus -> Faculty of Mechanical Engineering and Ship Technology -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jerzy Głuch	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	15.0	0.0	45

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	45	6.0	24.0	75

Subject objectives

Basic knowledge of turbomachinery principle of operation and turbomachinery enrgy power plants.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W03] demonstrates a well-structured and theoretically grounded knowledge of the key issues in Mechanical Engineering to enable the design and diagnosis of mechanical systems, processes and devices	Student can design simple mechanical and energetical devices	[SW1] Assessment of factual knowledge
[K7_U04] creatively designs or modifies devices, processes or systems specific to Mechanics and Mechanical Engineering, using computer-aided design systems in the form of technical documentation, taking into account aspects of economic analysis, using appropriate tools and techniques	Student can design simple energetical device	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject
[K7_U13] evaluates the feasibility and potential for utilizing new technical and technological achievements in accomplishing tasks characteristic for the field of study	student can find modern energetical device fulfiling demands	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information
[K7_K12] is ready for fullfiling social commitement and initation of actions for public interest including entrepreneurial thinking and acting	Student take into account social demands in his prophesional activity	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice

Subject contents

Basics of thermodynamical cycles. Elements of turbine power plants. Fluid problems in turbomachinery. Theory of turbine stages. Turbine flow parts.

Prerequisites and co-requisites

Basics of mechanics, fluid mechanics and thermodynamics.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Written exam</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 colspan="2">Perycz S., Turbiny parowe i gazowe, IMP Ossolineum,

Kosowski K. ed.,Steam and Gas Turbines, Alstom, ISBN 978-83-925959-3-9, 2007</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">-</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">descibe steam turbine principle of operation</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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