GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00056117		
Field of study	Mechatronics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Włodarski	
	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	0.0	0.0	30

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	30	0.0	0.0	30

Subject objectives

The aim of the course is to broaden the knowledge of the construction, operation and control of flow machines used in the power industry.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W10] has knowledge about development trends in the field of engineering and technology sciences and scientific disciplines: Mechanical Engineering, Automation, Electronics, Electrical Engineering and Space Technologies, adequate for Mechatronics curse	The student has in-depth knowledge of the operation of complex mechanical systems and devices.	[SW1] Assessment of factual knowledge
[K6_U05] is able to use properly chosen tools to compare design solutions of elements and mechatronics systems according to given application and economic criteria (e.g. power demand, speed, costs)	The student has in-depth knowledge of the operation of complex mechanical systems and devices.	[SU1] Assessment of task fulfilment
[K6_U06] is able to identify and formulate specification of simple, practical engineering tasks, distinctive for mechatronics	The student has in-depth knowledge of the operation of complex mechanical systems and devices.	[SU2] Assessment of ability to analyse information
[K6_W08] knows and understands design and production processes of elements and simple mechatronic devices	The student is able to describe and evaluate system and non-technical aspects when solving engineering tasks in the field of design, technology and operation of machines.	[SW1] Assessment of factual knowledge

Subject contents

classification of flow energy machines, control of steam and gas turbines, wind turbines, pumps and compressors

Prerequisites and co-requisites

basics of thermodynamics and fluid mechanics

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	51.0%	100.0%

Recommended reading

Basic literature	Krzysztof Kosowski Steam and gas turbines Alstom 2007

	Supplementary literature	Krzysztof Kosowski Steam and gas turbines Alstom 2007
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Steam turbine control methods	
Work placement	Not applicable	