



Subject card

Subject name and code	Heat Turbomachinery, PG_00042103						
Field of study	Power Engineering, Power Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2024/2025		
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		English		
Semester of study	5		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Energy and Industrial Apparatus -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Krzysztof Kosowski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	15.0	0.0	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		7.0		48.0	100
Subject objectives	Basic knowledge of turbomachinery principle of operation and turbomachinery enrgy power plants.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U07] is able to use basic knowledge of fluid flow machines and methods related to their design in an analytical and numerical approach to the preliminary design of an energy installation						
	[K6_W02] has a basic knowledge of physics (including optics, electricity and magnetism), chemistry, technical thermodynamics, fluid mechanics and general mechanics needed to understand and describe the basic phenomena occurring in devices and systems, energy plants and transmission networks and their environment						
	[K6_W09] knows the dangers of electrical devices and the principles of protection against them, has basic knowledge of heat exchangers, has basic knowledge of power equipment such as pumps, compressors, turbines, combustion engines, boilers, pipelines and their accessories and methods of their selection depending on the needs						
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.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam	60.0%	100.0%
Recommended reading	Basic literature	Perycz S., Turbiny parowe i gazowe, IMP Ossolineum, Kosowski K. ed., Steam and Gas Turbines, Alstom, ISBN 978-83-925959-3-9, 2007	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		