



## Subject card

Subject name and code	Nuclear power plant turbines, PG_00055909						
Field of study	Power Engineering, Power Engineering, Power Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Optional 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	3		Language of instruction		Polish Polish		
Semester of study	6		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		prof. dr hab. inż. Krzysztof Kosowski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	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		1.0		9.0	25
Subject objectives	Understanding the turbine thermal cycles of nuclear power plants.  Wet steam flow problems  Understanding erosion and corrosion problems in nuclear power plant turbines  Presenting the characteristic features of nuclear turbines and the differences between conventional turbines and nuclear power plant turbines						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W11] has knowledge of known technologies and non-technical aspects to solve simple engineering tasks in the field of energy systems and devices		The student is able to evaluate the technical, economic and social aspects of nuclear power plant technologies.		[SW1] Assessment of factual knowledge		
	[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		Deepening basic knowledge of thermodynamics, heat transfer and fluid mechanics. Students can perform thermal cycle calculations and design calculations for turbine flow components. They can discuss problems related to wet steam flows.		[SW1] Assessment of factual knowledge		

Subject contents	Course content – lecture  Nuclear power plant steam cycles Nuclear power plant gas cycles Wet steam flow problems Energy losses from moisture Corrosion and erosion in nuclear power plant turbines Characteristic features of modern nuclear turbines Differences between nuclear and conventional power plant turbines		
Prerequisites and co-requisites	knowledge of the basics of turbomachinery		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test	60.0%	100.0%
Recommended reading	Basic literature	Stefan Perycz, Turbiny parowe i gazowe, Ossolineum, 1992  Stefan Perycz, Turbiny parowe elektrowni jądrowych  Krzysztof Kosowski, ed., Steam and gas turbines, Alstom, 2007	
	Supplementary literature	materials from nuclear power plant suppliers	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	wyznaczenie linii ekspansji w turbinie nuklearnej  typy podgrzewaczy regeneracyjnych i ich bilanse energetyczne  straty w stopniu turbiny nuklearnej  charakterystyczne cech konstrukcji turni nuklearnych	
Practical activites within the subject	Not applicable		

Document generated electronically. Does not require a seal or signature.