



## 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 2022	Academic year of realisation of subject			2024/2025		
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 not applied		
Semester of study	6	ECTS credits			1.0		
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 hab. inż. Jerzy Gluch					
	Teachers						
Lesson types and methods of instruction	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	To familiarize students with the design and operation of heat turbines in cycles with nuclear reactors						
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 design turbines powered by working media from nuclear reactors			[SW3] Assessment of knowledge contained in written work and projects [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	The student is able to identify turbine cycles with nuclear reactors and indicate an application for them			[SW1] Assessment of factual knowledge		
Subject contents	Generation I, II and III nuclear reactors, Generation IV nuclear reactors, turbine power plants for individual generations, Detailed turbine design nodes for nuclear reactor power plants						
Prerequisites and co-requisites	Introductory information on nuclear physics, thermodynamics, fluid mechanics						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	written test	60.0%			100.0%		

Recommended reading	Basic literature	Perycz S., Turbiny parowe i gazowe, Politechnika Gdańska, Skrypt, Gdańsk 1988 Perycz S., Turbiny parowe i gazowe, Maszyny Przepływowe T. 10, Wydawnictwo Instytutu Maszyn Przepływowych PAN, Gdańsk 1992.  Jeziński G. Energia jądrowa wczoraj i dziś, WNT Warszawa 2014
	Supplementary literature	Kosowski K, Introduction to the theory of marine turbines, Wyd. PG Delft University, Gdańsk 2004
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Describe the principles of operation of a Generation IV nuclear power plant	
Work placement	Not applicable	