

## SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

## Subject card

Subject name and code	Hydroelectric Power Plants, PG_00042184								
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering								
Date of commencement of studies	October 2020		Academic year of realisation of subject			2022/2023			
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			
Semester of study	6		ECTS credits			1.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering								
Name and surname	Subject supervisor		dr inż. Marcin Jaskólski						
of lecturer (lecturers)	Teachers		dr inż. Alicja Lenarczyk						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
	Number of study hours	15.0	0.0 0.0 0.0		0.0		0.0	15	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	g activity Participation in classes includ plan		lidactic Participation in I in study consultation hours		Self-study SU		SUM	
	Number of study hours	15		2.0		8.0		25	
	To teach students hot to calculate power output and electricity production from hydro power plant To teach students how to select hydro turbine to hydrological conditions								
Learning outcomes	Course out		Subi				Mathad of yori	fication	
Learning outcomes	K6_U01		The student is able to solve tasks consisting in determining the basic quantities characterizing hydroelectric power plants.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools			
	K6_W08		The student knows and understands the principles of operation of hydroelectric power plants.			[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects			
Subject contents	Hydro power in Poland. Hydro power resources. Power output of hydro power plant. Devices in technological chain of hydro power plant. Hydro power turbines. Power generators. Operation of hydro power plants in power grid. Pumped storage power plants. Small hydro power plants.								
Prerequisites and co-requisites									
Assessment methods	Assessment methods Subject passing criteria		Passing threshold			Percentage of the final grade			
and criteria	Evaluation test		60.0%			100.0%			

Recommended reading	Basic literature	Marecki J.: Podstawy przemian energetycznych. WNT Warszawa 2008				
		Łaski A.: Elektrownie wodne: Rozwiązania i dobór parametrów. WNT Warszawa 1971				
		Jackowski K.: Elektrownie wodne: Turbozespoły i wyposażenie. WNT Warszawa 1971				
	Supplementary literature	Michałowski S.: Energetyka wodna. WNT Warszawa 1975				
	eResources addresses	Adresy na platformie eNauczanie:				
		Elektrownie wodne [2022/23] - Moodle ID: 28624 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=28624				
Example issues/ example questions/ tasks being completed	Calculate the power output and electricity production in hydro power plant given the water volume and difference of height (run-on-the-river hydropower plant, hydropower plant with dam - daily and weekly storage).					
	Design of hydro turbine on the basis of specific speed given hydrological conditions (colume of water and difference in height).					
Work placement	Not applicable					