



## Subject card

Subject name and code	Electrical Power Equipment and Substations, PG_00050037						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2023/2024		
Education level	second-cycle studies		Subject group				
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Zbigniew Lubośny				
	Teachers		prof. dr hab. inż. Zbigniew Lubośny				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	0.0	0.0	10
	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	10		3.0		37.0	50
Subject objectives	Acquiring detailed knowledge in the field of power station construction and principles of selecting equipment and station equipment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K7_W11		Has detailed knowledge of the construction of power stations, knows the rules for the selection of equipment and station equipment, knows high-voltage technologies		[SW3] Assessment of knowledge contained in written work and projects		
	K7_U10		Is able to calculate short-circuit currents, select elements of the power station equipment, including power protection automatics.		[SU4] Assessment of ability to use methods and tools		
	K7_K04		Correctly identifies and resolves dilemmas related to the construction and equipment of power stations, in particular those related to the responsibility for their own and others' safety.		[SK5] Assessment of ability to solve problems that arise in practice		
	K7_W05						
Subject contents	Power stations in the system, classification, components of power stations, station rail systems, features of rail systems, selection of rigid and flexible busbars, current and voltage transformers, selection of current and voltage transformers.						
Prerequisites and co-requisites	Electric power systems						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		60.0%		100.0%		
Recommended reading	Basic literature		H. Markiewicz, Urządzenia elektroenergetyczne, WNT Warszawa 2006.  Poradnik inżyniera elektryka. WNT Warszawa 2011 (tom 3), 2007 (tom 2).				

	Supplementary literature	<p>E. Musiał, Instalacje i urządzenia elektroenergetyczne, WSiP Warszawa 1998.</p> <p>A. Kanicki, J. Kozłowski: Stacje elektroenergetyczne. Politechnika Łódzka, Łódź 2004.</p>
	eResources addresses	<p>Adresy na platformie eNauczenie:</p> <p>URZĄDZENIA I STACJE ELEKTROENERGETYCZNE [ET][II] [Niestacjonarne][2023/24] - Moodle ID: 36135 <a href="https://enauczenie.pg.edu.pl/moodle/course/view.php?id=36135">https://enauczenie.pg.edu.pl/moodle/course/view.php?id=36135</a></p>
Example issues/ example questions/ tasks being completed	Select current and voltage, measurement and protection transformers at the MV substation.	
Work placement	Not applicable	