



Subject card

Subject name and code	Safety of Electrical Power Engineering System, PG_00003478						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	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 of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Ryszard Zajczyk					
	Teachers						
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		2.0		13.0	25
Subject objectives	To provide students with the problems of security of the power system.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	K7_W03		Student recognizes the basic issues as regards safety of the power system, explains basic processes occurring in the power system during emergency states as well as interprets occurrences and processes occurring in the power system.			[SW2] Assessment of knowledge contained in presentation	
	K7_U10		Student recognizes the basic issues as regards safety of the power system, explains basic processes occurring in the power system during emergency states as well as interprets occurrences and processes occurring in the power system.			[SU1] Assessment of task fulfilment	
	K7_W05		Student recognizes the basic issues as regards safety of the power system, explains basic processes occurring in the power system during emergency states as well as interprets occurrences and processes occurring in the power system.			[SW3] Assessment of knowledge contained in written work and projects	
Subject contents	The security of the Power system in time horizons. The existent structures of generating and transmitting electric energy, international connections, organisational and financial connections, emergency automation and restitution procedures and their influence on power security. Methodology of forecasts/ prognoses demands for electric energy. The scope and results of privatization of electrical power engineering sector. The influence of market economy and international commitments. The impact of dispersed/ distributed generation on the power system. The importance of security automation and system automation in the process of stability loss, subsystems and islands? defence arrangements and restitution of the power system. Computer simulations of the system breakdowns.						
Prerequisites and co-requisites	Knowledge of electrical Power engineering, Power systems, automation of security operations and control.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		Midterm colloquium	60.0%
Recommended reading	Basic literature	1. Machowski J., Bernas S.: Stany nieustalone i stabilność systemu elektroenergetycznego. Warszawa WNT 1989.	
	Supplementary literature	1. Kundur P.: Power System Stability and Control. McGraw-Hill, Inc. 1994.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Examples of questions and issues to develop served during the lectures.		
Work placement	Not applicable		