



Subject card

Subject name and code	Stability of electric power system, PG_00042320						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
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			3.0		
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	10.0	0.0	0.0	20
	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	20	6.0		49.0		75
Subject objectives	Familiarize students with the problems of stability of the power system.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_W01	Uses extended and in-depth knowledge in mathematics, covering selected issues of numerical methods and knowledge useful for solving problems.			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U02	Student prepares the presentation			[SU1] Assessment of task fulfilment		
	K7_W02	Does not apply to this item			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U03	Ability to use literature			[SU3] Assessment of ability to use knowledge gained from the subject		
Subject contents	Faults in the power system and their impact on its stability. The stability of local, global and voltage of the power system. The calculation method of stability. Measures to improve the stability of employed in power systems. The role of the automation system in the process of loss of stability, preparations for the defense subsystems and islands and restoration of the power system. Computer simulation of system failures.						
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		
	colloquium of the lecture part	60.0%			60.0%		
	assessment of laboratory	60.0%			40.0%		
Recommended reading	Basic literature	1. Machowski J., Bernas S.: Stany nieustalone i stabilność systemu elektroenergetycznego. Warszawa WNT 1989. 2. Machowski J.: Regulacja i stabilność systemu elektroenergetycznego. Oficyna Wydawnicza Politechniki Warszawskiej. Warszawa 2007.					
	Supplementary literature	1. Kundur P.: Power System Stability and Control. McGraw-Hill, Inc. 1994.					
	eResources addresses						

Example issues/ example questions/ tasks being completed	Examples of questions and issues to develop served during the lectures. 1. Types of power system stability. 2. Methods for determining the stability limit of the global energy system.
Work placement	Not applicable