GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Stability of electric power system, PG_00042320		
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	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_U03	Ability to use literature	[SU3] Assessment of ability to use knowledge gained from the subject
K7_W02	Does not apply to this item	[SW3] Assessment of knowledge contained in written work and projects
K7_U02	Student prepares the presentation	[SU1] Assessment of task fulfilment
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

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
assessment of laboratory	60.0%	40.0%
colloquium of the lecture part	60.0%	60.0%

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

Adresy na platformie eNauczanie:

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