



Subject card

Subject name and code	Computer Adjustment Systems, PG_00050054						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2025	Academic year of realisation of subject				2025/2026	
Education level	second-cycle studies	Subject group				Specialty 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	1	Language of instruction				Polish	
Semester of study	2	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				exam	
Conducting unit	Department Of Electrical Power Engineering -> Faculty Of Electrical And Control Engineering -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Seweryn Szultka				
	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		4.0		51.0	75
Subject objectives	The aim of the course is for students to master regulatory processes, methods of testing basic parameters of the regulation system, issues related to visualization processes and data acquisition.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U10] is able to calculate short-circuit currents, select substation equipment including power system automation protection automatics		Determines the parameters of the control system depending on the control system. It implements external phenomena that affect the operation of the control system, introduces disturbances from the power system side.		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information		
	[K7_W08] has an extended knowledge of power supply systems power supply and control systems including the use of computer networks and design of these systems in industrial facilities industrial facilities		Defines the operating principles of selected devices included in the power system. Recognizes control algorithms and develops a concept for the control system of the selected device		[SW1] Assessment of factual knowledge		
Subject contents	LECTURE Control system, their tasks and structure. Examples of creating block diagrams of selected control objects. Transforming block diagrams. Digital control: control methods, digital measurement systems. Visualization and archiving systems of control object data. Controllers LABORATORY Programming a programmable controller based on the indicated control system. Visualization of received signal courses over time.						
Prerequisites and co-requisites	Ability to program PLC controllers. Subject "Programmable controllers"						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
			50.0%		40.0%		
			50.0%		60.0%		

Recommended reading	Basic literature	1. Brzózka J.: Regulatory cyfrowe w automatyce, Wyd. MIKOM, 2002. 2. Brzózka J.: Regulatory i układy automatyki, Wyd. MIKOM, 2004. 3. Kaczorek T.: Teoria układów regulacji automatycznej, WNT, 1974. 4. Findeisen W.: Struktury sterowania dla złożonych procesów. Oficyna Wydawnicza Politechniki Warszawskiej, 1997 5. Grega W.: Metody i algorytmy sterowania cyfrowego w układach scentralizowanych i rozproszonych, Wydawnictwo AGH, 2004
	Supplementary literature	1. Osowski S.: Modelowanie układów dynamicznych z zastosowaniem języka SIMULINK, Oficyna Wyd. Politechniki Warszawskiej, Warszawa, 1997. 2. Liu J.: Networked and Distributed Predictive Control: Methods and Nonlinear Process Network Applications, Univeristy of California, Los Angeles, 2011
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. 1. Which measuring transducer should be used to obtain the accuracy of not less than 5% for the 4 ÷ 20 mA range? Assume that the range of the measured quantity has been correctly selected. 2. Explain the concepts of quantization, sampling, discretization 3. Convert the transmittance shown. Please present the individual stages of transformation graphically 	
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.