

Subject card

Subject name and code	Analog Control - laboratory, PG_00047591								
Field of study	Automatic Control, Cybernetics and Robotics								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2024/2025			
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study			
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	3		Language of instruction			Polish			
Semester of study	5		ECTS credits			2.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Automatic Control ->		Faculty of Electronics, Telecommunications and Informatics						
Name and surname	Subject supervisor		dr inż. Piotr Fiertek						
of lecturer (lecturers)	Teachers		dr inż. Piotr Fiertek						
Lesson types and methods	Lesson type Lecture		Tutorial Laboratory Project		t	Seminar	SUM		
of instruction	Number of study	0.0	0.0	30.0	0.0		0.0	30	
	hours E-learning hours inclu	lded: 0 0							
Learning activity and number of study hours	Learning activity	Participation in classes include		Participation consultation h		Self-st	Self-study SUM		
	Number of study	plan 30		2.0		18.0		50	
	hours								
Subject objectives	The aim of the course is to familiarize with the practical aspects of control theory								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	[K6_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions		student is able to simulate the operation of a closed control system built on linear and non-linear objects. On this basis, the student is able to conduct experiments related to the selection of the appropriate control algorithm. Student is able to determine the settings of proportional controller, PID controller, LEAD, LEAD-LAG and control system with state feedback.			[SU1] Assessment of task fulfilment			
	operation of components, circuits and systems related to the field of study, measure their parameters and examine technical specifications		student is able to identify the parameters of models of identified objects and determine the technical characteristics of the control system components and the control object			[SU1] Assessment of task fulfilment			
[K6_U21] can individually carry out an analysis of a managing and controlling problem and is able to individually design, tune and operate automatic regulation and control systems, and use computers to control and monitor dynamic systems			student knows the methods of stability tests and synthesis of control systems (linear and nonlinear), can simulate the operation of the control system, can adjustment the PID controllers			[SU1] Assessment of task fulfilment			
Subject contents	In the laboratory classes, student has to realize 7 of exercises								
Prerequisites and co-requisites	Necessary requirement for taking part in the laboratory classes is pass 'Basics of Automation' and 'Analog Control' courses. Before, the student should master the basics of control theory for linear and nonlinear systems.								
Assessment methods	Subject passin	Passing threshold			Per	Percentage of the final grade			
and criteria	job processing and re	50.0%			100.0%				

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Recommended reading	Basic literature	Course book of Analog Control laboratory.				
	Supplementary literature	Janusz Nowakowski, "Podstawy Automatyki" Tom I i II, Gdańsk 1992r				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed						
Work placement	Not applicable					

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