

Subject card

	Automation and robotics, PG_00023322							
Medical and Mechanical Engineering, Mechanical and Medical Engineering								
October 2020		Academic year of realisation of subject			2021/2022			
first-cycle studies		Subject group			Obligatory subject group in the field of study Subject group related to scientific			
- " "					research in the field of study			
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-	Department of Mechanics and Mechatronics -> Faculty of Mechanical Engineering and Ship Technology						Technology	
rname Subject supervisor Cturers) Teachers		dr inż. Wiktor Sieklicki						
leachers		dr inż. Wiktor Sieklicki						
Lesson type	Lecture	Tutorial	Laboratory	atory Project		Seminar	SUM	
Number of study hours	15.0	15.0	0.0	0.0		0.0	30	
E-learning hours incli	E-learning hours included: 0.0							
Automatyka i Robotyka I - W/Ć, IM-M, sem. 3, (PG_00023322) - Moodle ID: 18645								
classes includ		n didactic led in study	Participation in consultation hours		Self-study		SUM	
Number of study hours	30		3.0		17.0		50	
To present automation systems and control algorithms in mechanical systems. Knowing the structure and components of a typical control system. Gaining general information about the methods of designing, analysis and study of the properties of typical control systems. Learning about methods of modeling, analysis and control ofautomation systems								
Course outcome Subject outcome Method of				Method of ve	rification			
K6_U05		occurrences in automatics			[SU3] Assessment of ability to use knowledge gained from the subject			
K6_W06					[SW3] Assessment of knowledge contained in written work and projects			
K6_U04		Student is able to propose a proper automatics elements as in control theroy			[SU4] Assessment of ability to use methods and tools			
		Student is able to design simple automatics systems			[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject			
 number systems, design and analysis of logic control systems transfer function automatic control system components Laplace transformation standard signals in automatics standard control system elements block diagrams stability, stability conditions and criteria 								
	first-cycle studies Full-time studies 2 3 general academic pro Department of Mecha Subject supervisor Teachers Lesson type Number of study hours E-learning hours inclued Address on the e-lead Adresy na platformied Automatyka i Roboty https://enauczanie.pp Learning activity Number of study hours To present automatic components of a typi analysis and study of analysis and study of analysis and control Course out K6_U05 K6_U04 K6_U07 • number systems • design and analy • transfer function • automatic control • standard signals • standard control • standard control • block diagrams	first-cycle studies Full-time studies 2 3 general academic profile Department of Mechanics and Meci Subject supervisor Teachers Lesson type Lecture Number of study hours E-learning hours included: 0.0 Address on the e-learning platform: Adresy na platformie eNauczanie: Automatyka i Robotyka I - W/Ć, IM-https://enauczanie.pg.edu.pl/moodle Learning activity Participation in classes included plan Number of study hours To present automation systems and components of a typical control system analysis and study of the properties analysis and control ofautomation systems and components of a typical control system analysis and control ofautomation systems and components of a typical control system analysis and control ofautomation systems and components of a typical control system analysis and control ofautomation systems and control ofautomation systems and control ofautomation systems and control ofautomation systems and control system components of a typical control syste	October 2020 Full-time studies Full-time studies Full-time studies Mode of de 2 Language 3 ECTS cred general academic profile Department of Mechanics and Mechatronics -> Fa Subject supervisor Teachers Cesson type Lecture Lesson type Lecture Lesson type Lecture Tutorial Number of study hours E-learning hours included: 0.0 Address on the e-learning platform: https://enaucza. Adresy na platformie eNauczanie: Automatyka i Robotyka I - W/Ć, IM-M, sem. 3, (PG https://enauczanie.pg.edu.pl/moodle/course/view.plan Number of study hours To present automation systems and control algority canses included in study plan Number of study hours To present automation systems and control algority components of a typical control system. Gaining ge analysis and study of the properties of typical control analysis and control ofautomation systems Course outcome K6_U05 Student is abloroper logic control for transfer function K6_U04 Student is abloroper logic control theroy K6_U07 Student is abloroper automatics systems • number systems, • design and analysis of logic control systems • transfer function sutomatic control system components • Laplace transformation • standard signals in system elements • block diagrams	Academic year of realisation of subject	October 2020 Academic year of realisation of subject first-cycle studies Subject group Full-time studies Mode of delivery Language of instruction ECTS credits general academic profile Assessment form Department of Mechanics and Mechatronics -> Faculty of Mechanical Er Subject supervisor Teachers dr in2. Wiktor Sieklicki Lesson type Lecture Tutorial Laboratory Projec Number of study hours E-learning hours included: 0.0 Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/ Adresy an platformie eNauczanie: Automatyka i Robotyka 1 - W/C, IM-M, sem. 3, (PG_00023322) - Moodle https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18645 Learning activity Participation in didactic classes included in study plan Number of study hours To present automation systems and control algorithms in mechanical sys components of a typical control system. Gaining general information abox analysis and study of the properties of typical control systems. Learning a analysis and control ofautomation systems Course outcome Student is able to define standard occurrences in automatics systems and control. K6_W06 Student is able to propose a proper jogic circuit K6_U04 Student is able to propose a proper automatics elements as in control theroy K6_U07 Student is able to design simple automatics systems - unumber systems, - design and analysis of logic control systems - transfer function - automatic control system components - Laplace transformation - standard signals in automatics - standard diagrams	October 2020 Academic year of realisation of subject first-cycle studies Subject group Obligation of subject Full-time studies Mode of delivery Language of instruction 3 ECTS credits 2.0 general academic profile Assessment form Department of Mechanics and Mechatronics -> Faculty of Mechanical Engineeri Subject supervisor Teachers dr inż. Wiktor Sieklicki Lesson type Lecture Tutorial Laboratory Number of study hours Learning hours included: 0.0 Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/ Adresy na platformie eNauczanie: Automatyka i Robotyka I - W/Ć, IM-M, sem. 3, (PG_00023322) - Moodle ID: 186 https://enauczanie.pg.edu.pl/moodle/courseview.php?id=18645 Learning activity Participation in didactic classes included in study plan Number of study hours Number of study Nours To present automation systems and control algorithms in mechanical systems. K components of a typical control system. Gaining general information about the m analysis and study of the properties of typical control systems. Learning about K6_U05 Student is able to define standard occurrences in automatics systems and control. Self-st control of automatics Systems and control of such systems and control systems. Learning about m analysis and control of automation systems Full Address on the systems and control systems. Subject outcome Subject outcome Subject outcome Subject outcome Subject outcome Subject outcome (K6_U06 Student is able to propose a proper automatics elements as in control theroy analysis Sudant is able to design simple automatics systems analysis and control systems transfer function automatics control system components - Laplace transformation standard signals in automatics standard ocontrol system components - Laplace transformation standard signals in automatics standard control system elements block diagrams	Department of Mechanics and Mechatronics > Faculty of Mechanical Engineering and Ship Teachers	

Data wydruku: 10.04.2024 17:28 Strona 1 z 2

Prerequisites and co-requisites	Mathematics in scope of algebra, matrices, derivative equations					
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade			
and criteria		56.0%	100.0%			
Recommended reading	Basic literature	 Węgrzyn S.: Podstawy automatyki. PWN Warszawa, 1980. Perycz S.: Podstawy automatyki. Skrypt PG. Gdańsk 1983 Mostowski A. Algebry boolea i ich zastosowanie Holejko D., Kościelny W.J.: Automatyka procesów ciągłych, Oficyna Wydawnicza Politechniki Warszawskiej, 2012 Barski M, Jędruch W. Układy cyfrowe i mikroprocesorowe zadania Pełczewski W.: Teoria sterowania. Ciągłe stacjonarne ukłądy liniowe. WT Warszawa 1980. Kaczorek T.: Teoria sterowania, tom.1. PWN Warszawa 1977. 				
	Supplementary literature					
	eResources addresses	Automatyka i Robotyka I - W/Ć, IM-M, sem. 3, (PG_00023322) - Moodle ID: 18645 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18645				
Example issues/ example questions/ tasks being completed	Reduce a logic function to the simplest form and propose a logic circuit for realization of the function					
	Calculate La place function of a signal given as a plot Define movement equations for a mechanical object					
Work placement	Not applicable					

Data wydruku: 10.04.2024 17:28 Strona 2 z 2