



Subject card

Subject name and code	Team Project, PG_00062881						
Field of study	Automation, Robotics and Control Systems						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			8.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Katedra Inteligentnych Systemów Sterowania i Wspomagania Decyzji -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Robert Piotrowski					
	Teachers	dr hab. inż. Robert Piotrowski dr inż. Tomasz Zubowicz					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	90.0	0.0	90
	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	90		20.0		90.0	200
Subject objectives	The aim of the course is to design, develop and software a dynamic system.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_W07	The student is able to design automation systems.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_W11] knows the hazards arising from devices, installations, systems and technical systems, basic principles of occupational health and safety, taking into account the role of control and security systems in controlling automation and robotics facilities	The student is able to design and build dynamic systems.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_K05] can think and act in an entrepreneurial way	Student is able to use scientific articles.	[SK2] Assessment of progress of work
	[K6_U04] has the ability to self-educate, among other things, in order to improve professional qualifications	Student is able to analyse technical documentation.	[SU3] Assessment of ability to use knowledge gained from the subject
	K6_U04	Student is able to analyse technical documentation.	[SU3] Assessment of ability to use knowledge gained from the subject
	[K6_W06] knows the structure of computers and microprocessors and the tasks of operating systems, has basic knowledge of the basics of computer software, drivers, microprocessor technology, design of simple algorithms and the operation of information networks	The student is able to programme dynamic systems.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_W07] has basic knowledge related to control and automation systems	The student is able to design automation systems.	[SW3] Assessment of knowledge contained in written work and projects
	K6_K05	Student is able to use scientific articles.	[SK2] Assessment of progress of work
K6_W11	The student is able to design and build dynamic systems.	[SW3] Assessment of knowledge contained in written work and projects	
Subject contents	<ol style="list-style-type: none"> 1. Design assumptions. 2. Mechanical part of the device. 3. Electronic part of the device. 4. System software. 5. Test runs and analysis of results 		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Text preparation	50.0%	100.0%
Recommended reading	Basic literature	<p>Czemplik A. (2021). <i>Dynamika układów. Wprowadzenie do modelowania, analizy i symulacji</i>. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław.</p> <p>Byrski W. (2007). <i>Obserwacja i sterowanie w systemach dynamicznych</i>. Uczelniane Wydawnictwa Naukowo Dydaktyczne Akademii Górniczo Hutniczej, Kraków.</p> <p>Kabziński J., Mosiołek P. (2018). <i>Projektowanie nieliniowych układów sterowania</i>. Wydawnictwo Naukowe PWN, Warszawa.</p>	
	Supplementary literature	<p>Holejko D., Kościelny W.J. (2012). <i>Automatyka procesów ciągłych</i>. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa.</p>	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Preparation of project assumptions.		
Work placement	Not applicable		