



Subject card

Subject name and code	Mechatronika w pojazdach i maszynach roboczych, PG_00005428						
Field of study	Mechatronika, Mechatronics						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Piotr Mioduszewski					
	Teachers	dr hab. inż. Piotr Mioduszewski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
	Mechatronika w pojazdach i maszynach roboczych - W, MTR, I st. stacj. sem.06 (PG_00005428) - 2022/2023 - Moodle ID: 27346 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27346						
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	30	0.0		0.0	30	
Subject objectives	To familiarize students with issues related to the construction and maintenance of mechatronic systems in modern vehicles.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W08	Student is up to date with new developments in technology in mechatronic systems in vehicles and working machines.			[SW1] Assessment of factual knowledge		
	K6_U05	Student explains principles of operation of mechatronics systems in vehicles and heavy machinery.			[SU3] Assessment of ability to use knowledge gained from the subject		
	K6_U06	Student is able to perform diagnostics of mechatronic systems in vehicles and heavy machinery.			[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		
	K6_W11	Student knows the structure of mechatronics systems in vehicles and heavy machinery.			[SW1] Assessment of factual knowledge		
Subject contents	Centralized network administration in vehicles (CAN, LIN). Sensors and controllers used in vehicles and heavy machinery. Active and passive safety systems in vehicles (braking, traction control, skidding). Vehicle lighting systems (intelligent lighting systems ILS). Driving and riding comfort systems (parking aid, cruise control, information, navigation, ventilation, climate control, interior illumination, vehicle theft protection). Mechatronics systems in heavy machinery.						
Prerequisites and co-requisites	Knowledge of mechanics of machines and devices. Basic knowledge of machine building and mechanical engineering. Basics of electronics and elektrotechnics. Basics of informatics.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		Test	50.0%
Recommended reading	Basic literature	Bosch Automotive Handbook 6th Edition, Bentley Publishers, USA, 2005 The Mechatronics Handbook By Robert H. Bishop, CRC Press, 2002.	
	Supplementary literature	Mechatronics and the Design of Intelligent Machines and Systems By David A. Bradley, CRC Press, 2000.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		