



## Subject card

Subject name and code	Road Vehicles, PG_00005161									
Field of study	Mechatronics, 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	5	ECTS credits			2.0					
Learning profile	general academic profile	Assessment form			assessment					
Conducting unit	Zakład Pojazdów Mechanicznych i Techniki Militarnej -> Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology									
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Grzegorz Ronowski								
	Teachers	dr hab. inż. Grzegorz Ronowski dr hab. inż. Stanisław Taryma								
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										
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	The aim is for students to acquire knowledge of vehicle construction.									
Learning outcomes	Course outcome	Subject outcome			Method of verification					
	K6_U05	The student describes the general structure of the car. It shows the characteristics of the engine in connection with the necessary drive mechanisms. Lists the types of drive systems.			[SU1] Assessment of task fulfilment					
	K6_U05	The student is able to compare the construction of friction and torque converters.			[SU1] Assessment of task fulfilment					
	K6_W10	The student explains the construction of steering systems. Presents braking systems. Describes trends in the development of vehicle suspension structures.			[SW3] Assessment of knowledge contained in written work and projects					
Subject contents	LECTURE The general structure of a car. Characteristics of the engine and the necessary drive mechanisms. Drive systems. Design of clutches, gearboxes, drive shafts and joints, driving axles. Differentials, driveshafts and wheel bearings. Construction of steering systems. Braking systems. Design and kinematics of vehicle suspensions. Car shock absorbers, types, design solutions.									
Prerequisites and co-requisites	There are no requirements									
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade					
	Tests during the semester	60.0%			100.0%					
Recommended reading	Basic literature	1. Studziński K.: Samochód teoria, konstrukcja i obliczanie. Wyd. Naukowo-Techniczne, Warszawa, 1980. 2. Jaśkiewicz Z.: Projektowanie układów napędowych pojazdów samochodowych. WKŁ, Warszawa, 1982. 3. Reimpel J.: Budowa samochodów Podstawy Konstrukcji, WKŁ, warszawa, 1997. 4. Zając M.: Układy przeniesienia napędu samochodów ciężarowych i autobusów. WKŁ, Warszawa, 2003. 5. Hebda M., Niziński S., Pelc H.: Podstawy diagnostyki pojazdów mechanicznych. WKŁ. Warszawa. 1980.								
	Supplementary literature	Automotive magazines.								

	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed	<p>Functions performed by the clutch in the vehicle driveline.</p> <p>Vehicle traction characteristics.</p>	
Work placement	Not applicable	