



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	