



## Subject card

Subject name and code	The vehicles and diagnostics, PG_00040098						
Field of study	Mechanical Engineering						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
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						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	22.0	0.0	15.0	0.0	0.0	37
	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	37	10.0		78.0	125	
Subject objectives	Acquainting with the basic issues related to car diagnostics.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W08] possesses basic knowledge including the methodology of designing machine parts, mechanical devices, selection of construction materials, manufacturing and operation, with the lifetime cycle	The student has basic knowledge of vehicle diagnostics.			[SW1] Assessment of factual knowledge		
	[K6_U03] is able to identify, formulate and develop the documentation of a simple design or technological task, including the description of the results of this task in Polish or in a foreign language and to present the results using computer software or other aiding tools	The student is able to diagnose basic vehicle components automotive.			[SU4] Assessment of ability to use methods and tools		
Subject contents	Discussion of the concept of diagnosis. Discussion of methods: measurement of braking forces on a plate stand, measurement of car suspension geometry, measurement of clearance in the steering system, measurement of engine compression pressure, measurement of the tightness of engine combustion chambers. Analysis of diagnostic information in the passenger car OBD system.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Reports	56.0%			50.0%		
	Test	56.0%			50.0%		

Recommended reading	Basic literature	<p>1. Hebda M., Niziński S., Pelc H.: Podstawy diagnostyki pojazdów mechanicznych. WKŁ. Warszawa. 1980.2.  Trzeciak K.: Diagnostyka samochodów osobowych. WKŁ. Warszawa. 1998.3. Merkisz J., Marurek St.: Pokładowe systemy diagnostyczne pojazdów samochodowych. WKŁ. Warszawa. 2004.4.  Niziński S.: Diagnostyka samochodów osobowych i ciężarowych. Dom Wydawniczy BELLONA Warszawa. 1999.</p>
	Supplementary literature	<p>1. Reimpel J.: Budowa samochodów Podstawy Konstrukcji, WKŁ, warszawa, 1997.</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Describe the measurement of the braking force on the plate stand.	
Work placement	Not applicable	