



## Subject card

Subject name and code	Vehicle Safety, PG_00039972						
Field of study	Mechanical Engineering, Mechanical Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
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			1.0		
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 inż. Ryszard Woźniak				
	Teachers		dr inż. Ryszard Woźniak				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
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	15		4.0		6.0	25
Subject objectives	Acquainted with the principles of designing safe cars. Translating these principles into concrete design solutions vehicles and their respective teams.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U11] is able to analyse the operation of devices and compare the construction solutions applying usage, safety, environmental, economic and legal criteria	Active and passive safety. Principles of constructing safe vehicles. Chassis, chassis, braking systems, lighting, tires, seat belts, airbags, fire extinguishing systems. ABS, ASR and ESP systems. Air conditioning and satellite navigation. Reversing sensors and car radar. Research of vehicles and their assemblies. The impact of the road and road traffic organization. Safe operation of vehicles. Child safety in vehicles.			[SU1] Assessment of task fulfilment		
	[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	Active and passive safety. Principles of constructing safe vehicles. Chassis, chassis, braking systems, lighting, tires, seat belts, airbags, fire extinguishing systems. ABS, ASR and ESP systems. Air conditioning and satellite navigation. Reversing sensors and car radar. Research of vehicles and their assemblies. The impact of the road and road traffic organization. Safe operation of vehicles. Child safety in vehicles.			[SW1] Assessment of factual knowledge		
Subject contents	Active and passive safety. Principles of construction of safe vehicles. Bods, chassises, bracking systems, lights, tyres, safety belts, air bags, fire protection systems. ABS, ASR and ESP systems. Air conditioning and GPS. Backing sensors and car radar. Vehicle and it's units researches. Road and traffic organization influence. Safe maintenance of vehicle. Children safety in vehicles.						
Prerequisites and co-requisites	No requirements						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		Midterm colloquium	50.0%
Recommended reading	Basic literature	1. Wicher J.: Bezpieczeństwo samochodów i ruchu drogowego. WKiŁ, Warszawa, 2004. 2. Afanasjew L. L., Dżakow A. B., Ilarionow W. A.: Czynne bezpieczeństwo samochodu. WKiŁ, Warszawa, 1986. 3. Iwanow W. N., Lalin W. A.: Bierne bezpieczeństwo samochodu. WKiŁ, Warszawa, 1984. 4. Technika Motoryzacyjna - miesięczniki. 5. Auto-Technika Motoryzacyjna - miesięczniki. 6. Auto-International - miesięczniki. 7. Auto- Świat - tygodniki. 8. Materiały reklamowe firm: BMW, Mercedes-Benz, Renault, Opel, Bosch.	
	Supplementary literature	No requirements	
	eResources addresses	Adresy na platformie eNauczenie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		