



Subject card

Subject name and code	Fundamentals of Machinery and Equipment Technical Operation , PG_00044604						
Field of study	Transport						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study 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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			3.0		
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	15.0	15.0	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	5.0		40.0		75
Subject objectives	To provide basic knowledge about the operation of machines on the example of motor vehicles.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U11] able to describe and assess critically the design of basic means of transport and systems of transport, able to select methods for organising their technical operation	Student is able to describe automotive facilities used in the process of vehicle operation			[SU5] Assessment of ability to present the results of task		
	[K6_W13] has basic knowledge of the construction, operation and diagnostics of means of transport and the relevant methods, tools and materials	The student has knowledge on selected issues concerning the operation of motor vehicles			[SW1] Assessment of factual knowledge		
	[K6_K01] able to think and act creatively and enterprisingly; able to define priorities to support the delivery of an individual or group task; understands the need for continuous education and taking responsibility as a professional for their work and the work of the team	Student describes operation of main motor vehicle systems and units			[SK1] Assessment of group work skills		
Subject contents	Machine and device operation: basic definitions. Basics of maintenance theory. Utilisation of machines and devices. Utilisation of motor vehicles. Utilisation processes - clasification. Vehicle operation systems. Transport process. Technic-economic indicators. Choise of optimal transport. Basic wear processes in maintenance. Accelerating wear factors and prevention. Influence od utilisation and service conditions. Service and repair systems. Clasification of services. Maintenance materials. Fuels, oils, greases. Conservation materials. Maintenance fluids. Vehicle tyres. Technical back-up facilities. Organisation of technical back-up facilities of motorisation.						
Prerequisites and co-requisites	Knowledge of mechanics of machines and devices. Basic knowledge of machine building and mechanical engineering. Knowledge of building and principles of operation of systems and units in motor vehicles.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Presentation	100.0%			30.0%		
	Test	50.0%			70.0%		

Recommended reading	Basic literature	K. Abramek, M. Uzdowski: Pojazdy samochodowe. Podstawy obsługi i napraw, WKiŁ, Warszawa M. Uzdowski, K. Abramek, K. Garczyński: Pojazdy samochodowe. Eksploatacja techniczna i naprawa, WKiŁ, Warszawa S. Orzełowski: Naprawa i obsługa pojazdów samochodowych. WSiP, Warszawa A. Maryański: Stacje obsługi samochodów, WKiŁ, Warszawa J. Michałowska: Paliwa, oleje i smary, WKiŁ Warszawa
	Supplementary literature	M. Hebda, T Mazur: Podstawy eksploatacji pojazdów samochodowych, WKiŁ, Warszawa J. Cypko, E. Cypko: Podstawy technologii i organizacji naprawy pojazdów mechanicznych, WKiŁ, Warszawa J. Janecki, S. Gołąbek, Zużycie części i zespołów pojazdów samochodowych, WKiŁ, Warszawa.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	