



Subject card

Subject name and code	New Technologies in Transport, PG_00057863						
Field of study	Transport and Logistics, Transport and Logistics						
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	6		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Damian Bocheński				
	Teachers		mgr inż. Izabela Szwoch				
			dr hab. inż. Damian Bocheński				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	30.0	0.0	45
	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	45		5.0		25.0	75
Subject objectives	The aim of the course is to acquaint the Student with the basic knowledge of innovative/ modern technologies in transport systems, means of long and short-distance transport, logistics and transport management systems. It is important to present aspects in intelligent transport systems and safety improvement in transport innovations.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W05] has an organized knowledge on design, construction and operation of means and systems of transport		The student is able to develop and prepare action diagrams and discuss the possibilities in a given subject area		[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge		
	[K6_W08] has knowledge regarding the principles of sustainable development		The student is able to discuss, design and analyze modern transport systems in all areas of transport		[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge		
Subject contents	The importance of new technologies in transport, The influence of technology on the development of transport and logistics. Innovative solutions in the transport of goods and people, the idea of sustainable transport development, smart city. Modern concepts in logistics, Modern IT techniques in logistics. Advanced technologies in logistics and warehousing. Artificial intelligence in logistics and transport optimization. Modern cargo identification systems. Modern reloading devices and means of transport. Telematics, Intelligent systems in transport - challenges of the 21st century. Modern management systems in transport, digitization and modern technologies in transport companies. Modern technologies and management systems in land (road, rail), sea and air transport. Safety in transport, new technologies and challenges. Transport of the future.						
Prerequisites and co-requisites	The student should have general knowledge related to means of transport, transport infrastructure and intelligent transport systems.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	project		50.0%		50.0%		
	lecture		50.0%		50.0%		

Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Długosz J., Nowoczesne technologie w logistyce, PWE 2017 2. Duraj, J., Papiernik-Wojdera, M., Przedsiębiorczość i innowacyjność. Warszawa, Difin 2010 3. Red. Joanna Gonicka, Nowoczesne technologie w informatyce i transporcie, AH-E Łódź 2010 4. Modelewski K., Inteligentny transport, Poligraf 2018 5. Rydzkowski Wł., Współczesna polityka transportowa, Polskie Wydawnictwo Ekonomiczne 2017 6. Ślaskowski A., Pamuła W., Intelligent Transportation Systems Problems and Perspectives, Springer 2016 7. Wojewódzka-Król K., INNOWACJE W TRANSPORCIE, Zrównoważony rozwój. Integracja gałęzi transportu. Sztuczna inteligencja, PWN 2021 8. Wojewódzka-Król K., Załoga E., Transport, Nowe wyzwania, PWN 2016 <p>Załoga E., Liberacki B., Innowacje w transporcie . Korzyści dla użytkownika, WNUS, Szczecin 2010</p>
	Supplementary literature	<ol style="list-style-type: none"> 1. Cortin S., Vitale J., Kelly E., Cathles E.: The future of mobility. Deloitte University Press, 2015 2. Engelhardt Juliusz, Nowoczesne systemy transportowe w przewozach intermodalnych, WNUS Szczecin 2020
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Nowoczesne techniki w transporcie, W, TiL, sem. 6, lato 22/23 - Moodle ID: 30421</p> <p>https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30421</p>
Example issues/ example questions/ tasks being completed	<p>List and characterize pro-ecological / innovative activities in passenger transport</p> <p>Discuss the operation of intelligent transport systems in transport</p>	
Work placement	Not applicable	