



Subject card

Subject name and code	Automation of Processes and Means of Transportation, PG_00060674						
Field of study	Transport and Logistics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2026/2027		
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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Zakład Mechaniki i Konstrukcji Morskich -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Ryszard Pyszko					
	Teachers						
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		2.0		18.0	50
Subject objectives	The objectives of the course are to familiarize students with the issues: - improving efficiency in freight and passenger transport processes, - efficient use of means of transportation, - reducing adverse environmental effects associated with transportation, -providing the needed integration of various modes of transport, - Identification of constraints of a technical, economic, organizational nature.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U01] can obtain information from literature, databases and other sources; verify and systematize the information obtained, interpret it and draw conclusions, formulate and justify opinions	The student is able to carry out the selection of the means of transport for the task set in the order			[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		
	[K6_U04] is skilled in self-educating in order to develop his professional qualifications, is prepared to work in an industrial environment, applies the principles of occupational health and safety	The student is familiar with the regulations applied in the transport industry regarding the transport environment and health and safety rules			[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task		
	[K6_W04] has well established knowledge in the field of computer science, electronics, automation and control, information technology and computer graphics, useful for understanding the possibilities of applying them in transport	The student is able to develop on his own (using a spreadsheet) to carry out the selection of a carrier for a given transportation task.			[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge		

Subject contents	1.Automation of transport processes and means 2.Logistics chain 3.Warehousing 4.Open and semi-open warehouse 5.Distribution channels 6.Inventory in logistics 7.Distribution channels 8.Warehouse susceptibility 9.Commodity picking 10.RIFD system11.Storage regulations 12.Warehouse automation13.Automation of means of transport 14.Autonomy of means of transport											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="453 528 794 562">Subject passing criteria</th> <th data-bbox="794 528 1139 562">Passing threshold</th> <th data-bbox="1139 528 1489 562">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 566 794 589">Lecture</td> <td data-bbox="794 566 1139 589">60.0%</td> <td data-bbox="1139 566 1489 589">50.0%</td> </tr> <tr> <td data-bbox="453 593 794 616">Exercises</td> <td data-bbox="794 593 1139 616">60.0%</td> <td data-bbox="1139 593 1489 616">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Lecture	60.0%	50.0%	Exercises	60.0%	50.0%
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Recommended reading	Basic literature	Wojewódzka-Król Krystyna, Załoga Elżbieta,Transport New Challenges; Wydawnictwo Naukowe PWN S.A.; ISBN: 978-83-01-18462-9;Warszawa, 2016W. Choromanski, I. Grabarek. M. Kozłowski, M. Czerepicki, K. Marczuk, Autonomous vehicles and autonomous transport systems, Wydawnictwo Naukowe PWN, Warsaw, 2020Emilia SZCZANIECKA, Angelika SURMA* AUTOMATIC HIGH STORAGE STORAGE AS THE FUTURE OF STORAGE - JOURNAL OF TRANSLOGISTICS - article.Translated with www.DeepL.com/Translator (free version)										
	Supplementary literature	Journals, websites of institutions dealing with maritime economy, transport  Portal Morski - Wiadomości morskie z kraju i ze świata										
	eResources addresses	Adresy na platformie eNauczanie:										
Example issues/ example questions/ tasks being completed	Explain the concept of automation and means of transportation?Explain how the concept of autonomy of means of transportation is to be understood?What is storage, phases, storage systems?											
Work placement	Not applicable											