



## Subject card

Subject name and code	, PG_00065226						
Field of study	Transport						
Date of commencement of studies	February 2024			Academic year of realisation of subject		2024/2025	
Education level	second-cycle studies			Subject group			
Mode of study	Full-time studies			Mode of delivery		at the university	
Year of study	1			Language of instruction		Polish	
Semester of study	2			ECTS credits		2.0	
Learning profile	general academic profile			Assessment form		assessment	
Conducting unit	Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor			dr inż. Sławomir Grulkowski			
	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		0.0		0.0	30
Subject objectives	Obtaining basic information on the technique and organization of railway transport.  Transmission of the message on vertical management in rail traffic						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K7_U05] cooperates with other people in the implementation of team work, both as a leader and a team member, effectively achieving set goals		Is able to identify and define the role of transport in a given location and economic situation. Is able to establish a hierarchy of means of transport with the team			[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools	
	[K7_K01] recognizes the importance of knowledge related to the field of study in solving cognitive and practical problems		Identifies rolling stock and personnel needs. Determines the use of transport potential using scientific methods			[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills	
	[K7_W01] identifies in an in-depth way phenomena related to the field of study as well as theories describing them and possible methods of analyzing processes occurring in the life cycle of technical systems		The student is able to determine the capacity of a station and a railway line. He is able to create a timetable.			[SW1] Assessment of factual knowledge	

Subject contents	<p>LECTURE</p> <p>Rules and procedures for running train traffic on the railway network.</p> <p>Timetable preparation procedure</p> <p>Technology of passenger transport</p> <p>Technology of rail freight Interoperability</p> <p>Capacity of lines and railway stations.</p> <p>TUTORIALS</p> <p>Cyclical timetable</p> <p>Circulation and rotation of the composition</p> <p>Calculation of bandwidth</p>											
Prerequisites and co-requisites	Basic information on the subjects Railway Traffic Engineering and Rail Transport Infrastructure											
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="453 943 794 976">Subject passing criteria</th> <th data-bbox="794 943 1139 976">Passing threshold</th> <th data-bbox="1139 943 1492 976">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 976 794 1010">Tutorials</td> <td data-bbox="794 976 1139 1010">60.0%</td> <td data-bbox="1139 976 1492 1010">50.0%</td> </tr> <tr> <td data-bbox="453 1010 794 1043">Test</td> <td data-bbox="794 1010 1139 1043">60.0%</td> <td data-bbox="1139 1010 1492 1043">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Tutorials	60.0%	50.0%	Test	60.0%	50.0%
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Tutorials	60.0%	50.0%										
Test	60.0%	50.0%										
Recommended reading	Basic literature	<p>Jacyna M., Gołębiowski P., Krześniak M., Szkopiński J., Organizacja ruchu kolejowego, Warszawa, 2019.</p> <p>Żurkowski A., Pawlik M., Ruch i przewozy kolejowe. Sterowanie ruchem, Warszawa, 2010.</p> <p>Żurkowski A., Ewolucja i nowoczesne zasady budowy wykresu ruchu pociągów pasażerskich, Logistyka, 3, 2014.</p> <p>Nowosielski L., Organizacja przewozów kolejowych, KOW, Warszawa, 1999</p>										
	Supplementary literature	<p>Urbanyi-Popiołek I., Ekonomiczne i organizacyjne aspekty transportu, Wyższa Szkoła Gospodarki w Bydgoszczy, Bydgoszcz, 2013</p> <p>Zalewski P., Siedlecki P., Drewnowski A., Technologia transportu kolejowego, WKŁ, Waeszawa, 2004.</p>										
	eResources addresses	Adresy na platformie eNauczanie:										
Example issues/ example questions/ tasks being completed	<p>What is train and shunting?</p> <p>Cyclical, integrated timetable</p> <p>Calculation of transport needs</p>											
Work placement	Not applicable											