



Subject card

Subject name and code	Traffic Engineering, PG_00044245						
Field of study	Civil Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2024/2025		
Education level	first-cycle studies		Subject group		Optional subject group		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		5.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Wojciech Kustra				
	Teachers		mgr inż. Konrad Biszko				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	0.0	60
	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	60		8.0		57.0	125
Subject objectives	<p>The aim of the course is to familiarise students with the description and functioning of the human-vehicle-road- traffic-environment system (CPDRO), a description of the main factors influencing traffic generation and a review of traffic management methods.</p> <p>On this basis, the student should apply selected traffic management methods and design elements of road facilities taking into account efficiency, economic efficiency, traffic safety and environmental requirements.</p>						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W16] Has deeper and adequate knowlege of civil engineering, within offered specialization		The student has basic knowledge of the functioning of the human-vehicle-road-environment system. He/she also has knowledge of traffic research methods and tools concerning traffic management.		[SW1] Assessment of factual knowledge		
	[K6_U17] has specialized skills in civil engineering within offered specialization		The student is able to use traffic analyses on a road section, or intersection necessary to estimate levels of freedom of movement at designed intersections in the diploma thesis. The student is able to use issues from Traffic Engineering in the diploma thesis.		[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_U04] can correctly choose tools (analytical or numerical) to solve engineering problems in design of structures or construction process		The student is able to apply selected traffic research tools and basic traffic management tools in practice to assess the performance of a selected road facility and apply the most effective methods and measures for traffic management.		[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		

Subject contents	LECTURE Traffic engineering. Road users - man as a subject in traffic. Vehicles and their traffic conditions. Capacity of junctions with and without traffic lights, roundabouts. Capacity of road sections. Basic parameters of roads The issue of different transport systems. Road safety. The role of traffic volume and speed as basic traffic parameters. Fundamentals of modelling and vehicle traffic analysis. Road and environment. Road and traffic, climatic and meteorological factors. Traffic characteristics and parameters. Traffic surveys, measurements and analysis.														
Prerequisites and co-requisites															
Assessment methods and criteria	<table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td></td><td>100.0%</td><td>40.0%</td></tr><tr><td></td><td>100.0%</td><td>40.0%</td></tr><tr><td></td><td>50.0%</td><td>20.0%</td></tr></table>			Subject passing criteria	Passing threshold	Percentage of the final grade		100.0%	40.0%		100.0%	40.0%		50.0%	20.0%
Subject passing criteria	Passing threshold	Percentage of the final grade													
	100.0%	40.0%													
	100.0%	40.0%													
	50.0%	20.0%													
Recommended reading	Basic literature	Jamroz K. i inni.: Systemy sterowania ruchem ulicznym. WKŁ, 1984 r. Krystek R. i inni: Komputerowe systemy sterowania ruchem ulicznym i drogowym. Przykłady zastosowań. WKŁ 1984 Leśko M., Guzik J.: Sterowanie ruchem drogowym. WPŚ, 2000.Malarski M.: Inżynieria Ruchu Lotniczego OWPW, 2005 Czasopisma: Transport Miejski i Regionalny, Traffic Engineering & Control, Przegląd ITS, Autostrady													
	Supplementary literature	Highway Capacity Manual, TRR Roger P. Roess , William R. McShane , Elena S. Prassas , Traffic Engineering Institute of Transportation Engineers, Trip Generation Manual													
	eResources addresses	Adresy na platformie eNauczanie:													
Example issues/ example questions/ tasks being completed	Development of a selected issue in the field of traffic engineering.Methods for calculating the capacity of roundabout-type intersections, ordinary intersections and intersections with traffic lights.Traffic signal designTraffic organisation design for intersections														
Work placement	Not applicable														

Document generated electronically. Does not require a seal or signature.