



Subject card

Subject name and code	Road transport infrastructure , PG_00044607						
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			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marcin Budzyński				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	30.0	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		5.0		35.0	100
Subject objectives	Gaining knowledge in the design and construction of road transport infrastructure.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W12] has basic knowledge of the design and construction of transport infrastructure		The student designs the basic elements of the road and surface road, calculates the geometry of the road map and the longitudinal profile of the road, describes road equipment related to the functioning of the road, principles of earthworks and road drainage. Can design the basic parameters of a road intersection.		[SW1] Assessment of factual knowledge		
	[K6_U10] able to carry out simple engineering tasks related to the construction and operation of a selected element of the transport system, select the right methods and tools, select the right technical parameters for an object to be designed including economic and environmental aspects		The student is able to use the methods and tools in the design and construction of road infrastructure, knows technical conditions and necessary guidelines in the scope design.		[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task		
Subject contents	<p>LECTURES General conditions for the development of the road network. Planning, design and investment process in road construction. Classifications of roads and road interchanges, criteria for choosing solutions. Principles of dimensioning of road elements - road cross-section, situational plan, longitudinal profile. Principles of designing road intersections and junctions. Principles of designing devices for pedestrians, bicycles and public transport. Principles of designing other road transport facilities (car parks, bus stations, terminals, depots, toll stations, passenger service areas). Devices in the road lane (drainage, lighting, other media). Roadside. Road safety and road conditions. Road construction - basic principles of earthworks execution. Road surface classifications. Layout and functions of pavement layers. Road materials (asphalts, aggregates, asphalt mixtures). Design of pavement structures. Asphalt and concrete pavements.</p> <p>PROJECT Preliminary design of a rural road section, definition of the road surface structure.</p>						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	50.0%
	Exam	60.0%	50.0%
Recommended reading	Basic literature	<p>1. Wojewódzka-Król K., Rolbiecki R. ; Transport infrastructure. Ed. University of Gdańsk, 2008</p> <p>2. Road and highway interchanges. Work edited by Prof. R. Krystek. WKiŁ</p> <p>3. Gaca Stanisław, Suchorzewski Wojciech, Tracz Marian: Road traffic engineering. Theory and Practice, WKŁ, 2014.</p>	
	Supplementary literature	<p>1. Catalog of typical flexible and semi-rigid pavement structures. GDDKiA, Warsaw, 2014</p> <p>2. Catalog of typical rigid pavement structures, GDDKiA, Warsaw, 2012</p> <p>3. Guidelines for designing road intersections, GDDKiA, 2001</p> <p>4. Regulation of the Minister of Transport and Maritime Economy of 2 March 1999 on the technical conditions to be met by public roads and their location</p>	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	<p>Rules for selecting the type of road intersections and interchanges.</p> <p>Selection of cross-sections.</p> <p>Principles of designing a safe road infrastructure (intersections, junctions, infrastructure for pedestrians, cyclists, road surroundings).</p> <p>Principles of designing road surfaces.</p>		
Work placement	Not applicable		