



Subject card

Subject name and code	Design of road intersections and interchanges, PG_00044344						
Field of study	Civil Engineering						
Date of commencement of studies	October 2025	Academic year of realisation of subject			2026/2027		
Education level	second-cycle studies	Subject group			Optional subject group		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department Of Transportation Engineering -> Faculty Of Civil And Environmental Engineering -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Joanna Wachnicka					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	10.0	0.0	0.0	0.0	20
	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	20	5.0	50.0	75		
Subject objectives	The aim of the course is to broaden the student's knowledge of designing road junctions and intersections together with the practical graphic design of a road junction.						
Learning outcomes	Course outcome	Subject outcome		Method of verification			
	[K7_U07] is able to design elements of road network, to apply the rules of traffic organisation and control, taking into account economy, safety and environmental factors,	The student is able to properly design a road junction.					
	[K7_W06] has expanded knowledge about traffic theory, planing of road networks and junctions design, regarding economy, safety and environmental aspects	The student is able to design road junctions and intersections in many aspects, taking into account geometric, traffic, efficiency and safety parameters.					
Subject contents	Types of road junctions, their elements and principles of their selection. Advantages and disadvantages of using various types of solutions on the nodes. Security problems in the areas of nodes, visibility, throughput and broadly understood functionality. Design requirements for nodes and the ability to apply the acquired knowledge in design practice, Classic and innovative approach to designing intersections, new geometric solutions at intersections. Rules for selecting intersections.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold		Percentage of the final grade			
	road junction design	51.0%		80.0%			
	passing the lectures	51.0%		20.0%			
Recommended reading	Basic literature	R. Krystek, <i>Węzły drogowe i autostradowe</i> . WKŁ, 2008.					
		Dz.U. 2019 poz. 1643					

	Supplementary literature	WRD-32-2 Wytyczne projektowania węzłów drogowych. Elementy węzłów. WRD-32-1 Wytyczne projektowania węzłów drogowych. Wymagania podstawowe. WRD-32-3 Wytyczne projektowania węzłów drogowych. Wyposażenie techniczne.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Design a road junction with the assumed traffic parameters.	
Work placement	Not applicable	

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