



Subject card

Subject name and code	, PG_00070549						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2025/2026		
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	8	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Łukasz Jeliński					
	Teachers	dr inż. Łukasz Jeliński mgr inż. Konrad Biszko					
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	E-learning hours included: 0.0						
eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=5274							
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	Familiarising students with methods and means of traffic organisation and control, as well as practical skills in traffic organisation design.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_K01] Is aware of the key aspects of professional, ethical and social responsibility related to management, business operation, decision making and opinion formulation in civil engineering.	Selects traffic management methods. Prepares traffic management and traffic control designs.	[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK4] Assessment of communication skills, including language correctness [SK5] Assessment of ability to solve problems that arise in practice
	[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.	The student independently supplements and updates knowledge in the field of traffic organisation and control using up-to-date literature, standards and guidelines, and is able to plan further competence development in this area.	[SK2] Assessment of progress of work
	[K6_K03] Can effectively, clearly and unambiguously convey information, describe activities and communicate their results/ outcomes to engineers or a wider audience using appropriate communication methods and tools.	The student is able to use advanced tools in the design of organisation and traffic control.	[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK4] Assessment of communication skills, including language correctness [SK5] Assessment of ability to solve problems that arise in practice
	[K6_U05] Conducts research (obtaining information, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	The student has factual knowledge and is able to apply it in solving problems related to traffic organisation and control.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student describes and classifies methods and means of traffic organisation and control. He/ she identifies traffic management problems and solves them.	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation	
Subject contents	<p>Course content – lecture Methods and measures for traffic management. Priority route systems and one-way streets. Accessibility and parking. Pedestrian and bicycle traffic management. Priorities for selected vehicle groups. Vertical and horizontal signage. Traffic zone entry fee systems. Traffic safety devices. Speed management. Traffic light design. Intelligent Transport Systems services. Advanced traffic management.</p> <p>Course content – project Field inventory of vertical and horizontal signage. Preparation of thematic maps and quantitative summaries of road infrastructure. Analysis of road network parameters, including speed limits, traffic restrictions and one-way streets. Routing of public transport lines. Assessment of the impact of traffic-generating facilities on the road network. Audit of parking conditions and identification of safety hazards. Design of changes to the permanent traffic organisation at intersections. Development of transport services for newly designed facilities. Design of temporary traffic organisation in road works zones.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Passing the lecture	60.0%	50.0%
	Traffic organisation design	90.0%	50.0%

Recommended reading	Basic literature	<p>1. Jamroz K. i inni.: Systemy sterowania ruchem ulicznym. WKŁ, 1984r.</p> <p>2. Krystek R. i inni: Komputerowe systemy sterowania ruchem ulicznym i drogowym. Przykłady zastosowań. WKŁ 19843. Leśko M., Guzik</p> <p>3. J.:Sterowanie ruchem drogowym. WPŚ, 2000.</p> <p>4. Gaca S., SuchorzewskiW., Tracz M.: Inżynieria Ruchu DrogowegoWKŁ 2008</p> <p>5. Tracz M.,Allsop R.E.: Skrzyżowania z sygnalizacją świetlną. WKŁ1990.</p> <p>6. Wrześniowski Z. i inni: Koordynacja sygnalizacji świetlnej. WKŁ1977.</p> <p>7. Krystek R. i inni: Symulacja ruchu potoku pojazdów WKŁ 1980.</p> <p>8. Krystek R i inni: Węzły drogowe i autostradowe. WKŁ 2008</p> <p>9. Michael Kyte, Maria Tribelhorn: Operation, Analysis, and Design of Signalized Intersections: A Module for the Introductory Course inTransportationEngineering. 2014</p> <p>10. Coleman A. O'Flaherty: Transport Planning andTrafficEngineering.</p> <p>11. Peter Guest, Mike Slinn, Paul Matthews: TrafficEngineeringDesign: Principles and Practice. Elsevier Butterworth-Heinemann,2005.</p>
	Supplementary literature	<p>Czasopisma: Transport Miejski i Regionalny,</p> <p>TrafficEngineering&Control, Przegląd ITS, Autostrady</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>1. What is a one-way street system? Describe the rules for its use and list the advantages and disadvantages of this system. 2. What are city entry toll systems and what is their purpose? 3. What is speed management? Please provide examples. 4. List the classification of traffic calming measures according to road function, speed and type of traffic. Give one example for each traffic calming group. 5. What is the purpose of giving priority to public transport? Give three examples of possible measures that give priority to public transport vehicles. 6. State the objectives and requirements for the use of vertical signage. Give three examples of mistakes made when designing vertical signage. 7. List the methods and describe the selected method of organising road works. 8. List the advantages and disadvantages of using traffic lights. How can the validity of introducing traffic lights at an intersection be assessed? 9. Describe an example of a public transport management system and a priority system for public transport vehicles using Intelligent Transport Systems. 10. What are the objectives of using ITS (Intelligent Transportation Systems)? Present a proposal for the use of a set of systems on a motorway (list the individual subsystems and describe each one in two sentences: how it works and why it is being introduced). 11. Define ITS (Intelligent Transportation Systems). Propose a set of systems for use in urban street layouts (list individual subsystems and describe each one in two sentences: how it works and why it is being introduced). 12. List traffic management measures. What are the basic objectives of traffic management?</p>	
Practical activities within the subject	Not applicable	

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