GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Organization and road traffic control, PG_00044350
Field of study	Civil Engineering

Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
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	4	ECTS credits	3.0
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 hab. inż. Jacek Oskarbski
	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	To acquaint the student with methods and measures of traffic organization and control and practical ability to design traffic organization.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W06] has expanded knowledge about traffic theory, planing of road networks and junctions design, regarding economy, safety and environmental aspects	The student describes and classifies methods and measures of traffic organisation and control. Student identifies problems with traffic management and resolving them	
	[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,	Student selects the traffic organisation methods. He develops project traffic organisation and traffic control design.	

Subject contents	Traffic organisation methods and means. Priority route and street systems one-way street. Availability and parking. Organization of pedestrian and bicycle traffic. Priorities for of selected groups of vehicles. Vertical and horizontal markings. Toll system for entry into traffic zones.Traffic safety devices. Speed management. Signalling design. Advanced traffic management.
Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Traffic organisation projekt	90.0%	50.0%
	Passing the lecture	60.0%	50.0%

Recommended reading	Basic literature	
		1. Jamroz K. i inni.: Systemy sterowania ruchem ulicznym. WKŁ, 1984 r. 2. Krystek R. i inni: Komputerowe systemy sterowania ruchem ulicznym i drogowym. Przykłady zastosowań. WKŁ 1984 3. Leśko M., Guzik J.: Sterowanie ruchem drogowym. WPŚ, 2000. 4. Gaca S., Suchorzewski W., Tracz M.: Inżynieria Ruchu Drogowego WKŁ 2008 5. Tracz M., Allsop R.E.: Skrzyżowania z sygnalizacją świetlną. WKŁ 1990 6. Wrześniowski Z. i inni: Koordynacja sygnalizacji świetlnej. WKŁ 1977 7. Krystek R. i inni: Symulacja ruchu potoku pojazdów WKŁ 1980 8. Krystek R i inni: Węzły drogowe i autostradowe. WKŁ 2008 9. Michael Kyte, Maria Tribelhorn: Operation, Analysis, and Design of Signalized Intersections: A Module for the Introductory Course in Transportation Engineering. 10. Coleman A. O'Flaherty: Transport Planning and Traffic Engineering. 11. Peter Guest, Mike Slinn, Paul Matthews: Traffic Engineering Design: Principles and Practice. Elsevier Butterworth-Heinemann, 2005.
	Supplementary literature	
		Journals: Transport Miejski i Regionalny, Traffic Engineering&Control, Przegląd ITS, Autostrady
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1. What is the one-way street system? Give the rules of its application, list the pros and cons of this system 2. What are urban charging schemes and for what purpose are such schemes applied. 3. what is speed management, please give examples. 4. provide a breakdown of traffic calming measures by road function, speed and type of traffic. Please give one example for each traffic calming group. 5. to what extent public transport priorities are applied. Please give three examples possible measures to give priority to public transport vehicles. 6. state the objectives and requirements for the use of vertical marking. Give three examples of errors committed when designing vertical markings. 7. List the methods and describe the chosen method of organising road works 8. List the advantages and disadvantages of using traffic lights. How can the validity be assessed to introduce a signal at a crossroads. 9 Describe an example of a public transport vehicle 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)? Make a proposal the applications of the set of systems on the motorway (list the individual subsystems and characterise them each with two sentences - the principle of operation and the purpose for which it is introduced). 11. provide a definition of ITS (Intelligent Transportation Systems). Present a proposal the application of a set of systems in the layout of city streets (list individual subsystems and characterize each one with two sentences - the principle of operation and the purpose for which it is introduced). 12. List the traffic organisation measures. What are the basic objectives of traffic organisation. 13. List the most common shortcomings in the use of temporary horizontal marking, which may result in the occurrence of traffic events.	
Work placement	Not applicable	