



## Subject card

|   |  |  |   |                                     |                               |            |     |
|---|--|--|---|-------------------------------------|-------------------------------|------------|-----|
| Subject name and code                       | Organization and road traffic control, PG_00044350   |  |   |                                     |                               |            |     |
| Field of study                              | Civil Engineering  |  |   |                                     |                               |            |     |
| Date of commencement of studies             | October 2022   | Academic year of realisation of subject                  |   |                                     | 2023/2024                     |            |     |
| 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   |  |   |                                     |                               |            |     |
|   | 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_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.  |                                     |                               |            |     |
|   | [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 |                                     |                               |            |     |
| 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 |            |     |
|   | Passing the lecture  |  | 60.0%   |                                     | 50.0%                         |            |     |
|   | Traffic organisation projekt   |  | 90.0%   |                                     | 50.0%                         |            |     |

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|--|--|---|
| Recommended reading  | Basic literature   | <ol style="list-style-type: none"> <li>1. Jamroz K. i inni.: Systemy sterowania ruchem ulicznym. WKŁ, 1984 r.</li> <li>2. Krystek R. i inni: Komputerowe systemy sterowania ruchem ulicznym i drogowym. Przykłady zastosowań. WKŁ 1984</li> <li>3. Leśko M., Guzik J.: Sterowanie ruchem drogowym. WPS, 2000.</li> <li>4. Gaca S., Suchorzewski W., Tracz M.: Inżynieria Ruchu Drogowego WKŁ 2008</li> <li>5. Tracz M., Allsop R.E.: Skrzyżowania z sygnalizacją świetlną. WKŁ 1990</li> <li>6. Wrześniowski Z. i inni: Koordynacja sygnalizacji świetlnej. WKŁ 1977</li> <li>7. Krystek R. i inni: Symulacja ruchu potoku pojazdów WKŁ 1980</li> <li>8. Krystek R i inni: Węzły drogowe i autostradowe. WKŁ 2008</li> <li>9. Michael Kyte, Maria Tribelhorn: Operation, Analysis, and Design of Signalized Intersections: A Module for the Introductory Course in Transportation Engineering.</li> <li>10. Coleman A. O'Flaherty: Transport Planning and Traffic Engineering.</li> <li>11. Peter Guest, Mike Slinn, Paul Matthews: Traffic Engineering Design: Principles and Practice. Elsevier Butterworth-Heinemann, 2005.</li> </ol> |
|  | Supplementary literature   | Journals: Transport Miejski i Regionalny, Traffic Engineering&Control, Przegląd ITS, Autostrady   |
|  | eResources addresses   |   |
| Example issues/<br>example questions/<br>tasks being completed | <ol style="list-style-type: none"> <li>1. What is the one-way street system? Give the rules of its application, list the pros and cons of this system</li> <li>2. What are urban charging schemes and for what purpose are such schemes applied.</li> <li>3. what is speed management, please give examples.</li> <li>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.</li> <li>5. to what extent public transport priorities are applied. Please give three examples possible measures to give priority to public transport vehicles.</li> <li>6. state the objectives and requirements for the use of vertical marking. Give three examples of errors committed when designing vertical markings.</li> <li>7. List the methods and describe the chosen method of organising road works</li> <li>8. List the advantages and disadvantages of using traffic lights. How can the validity be assessed to introduce a signal at a crossroads.</li> <li>9 Describe an example of a public transport vehicle management system and a priority system for public transport vehicles using Intelligent Transport Systems.</li> <li>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).</li> <li>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).</li> <li>12. List the traffic organisation measures. What are the basic objectives of traffic organisation.</li> <li>13. List the most common shortcomings in the use of temporary horizontal marking, which may result in the occurrence of traffic events.</li> </ol> |   |
| Work placement   | Not applicable   |   |