



## Subject card

|   |   |   |          |                                     |                               |            |     |
|---|---|---|----------|-------------------------------------|-------------------------------|------------|-----|
| Subject name and code                       | Highway Materials Engineering, PG_00044223  |   |          |                                     |                               |            |     |
| Field of study                              | Civil Engineering   |   |          |                                     |                               |            |     |
| Date of commencement of studies             | October 2021  | Academic year of realisation of subject                               |          |                                     | 2024/2025                     |            |     |
| 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                           | 7   | ECTS credits  |          |                                     | 4.0                           |            |     |
| 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. Piotr Jaskuła  |          |                                     |                               |            |     |
|   | Teachers  | dr inż. Bohdan Dołycki<br>dr hab. inż. Piotr Jaskuła                  |          |                                     |                               |            |     |
| Lesson types and methods of instruction     | Lesson type   | Lecture   | Tutorial | Laboratory                          | Project                       | Seminar    | SUM |
|   | Number of study hours   | 15.0  | 15.0     | 15.0                                | 0.0                           | 0.0        | 45  |
| 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   | 45  |          | 5.0                                 |                               | 50.0       | 100 |
| Subject objectives                          | To learn principles of material's type, laboratory testing and quality control of highway materials.  |   |          |                                     |                               |            |     |
| Learning outcomes                           | Course outcome  | Subject outcome   |          |                                     | Method of verification        |            |     |
|   | [K6_W16] Has deeper and adequate knowledge of civil engineering, within offered specialization  | Classifies and test aggregates, bituminous binders, asphalt mixtures. |          |                                     |                               |            |     |
|   | [K6_U17] has specialized skills in civil engineering within offered specialization  | Assessment of road pavements. Modern road materials.                  |          |                                     |                               |            |     |
|   | [K6_W10] Has basic knowledge on design, construction and maintenance of roads and railroads   | Design and test of asphalt mixtures.                                  |          |                                     |                               |            |     |
| Subject contents                            | Classification and tests of aggregates. Bituminous binders: types, classification and tests. Types of asphalt mixtures and their applications. Asphalt mixture design and tests. Small size elements: kerbs, concrete paving blocks. Alternative materials, types and applications. Road pavement tests. Modern road materials. |   |          |                                     |                               |            |     |
| Prerequisites and co-requisites             | No requirements.  |   |          |                                     |                               |            |     |
| Assessment methods and criteria             | Subject passing criteria  | Passing threshold   |          |                                     | Percentage of the final grade |            |     |
|   | Project   | 100.0%  |          |                                     | 35.0%                         |            |     |
|   | Written examination   | 60.0%   |          |                                     | 65.0%                         |            |     |

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|--|--------------------------|--|
| Recommended reading  | Basic literature         | <ol style="list-style-type: none"> <li>1. Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKŁ, 2004</li> <li>2. Szydło A., Nawierzchnie drogowe z betonu cementowego, Polski Cement, 2004</li> <li>3. Błażejowski K., Styk S., Technologia warstw asfaltowych, WKŁ, 2005</li> <li>4. Edel R., Odwodnienie dróg, WKŁ 2002</li> <li>5. Rolla S., Badania materiałów drogowych, WKŁ, 1985</li> <li>6. Nowości techniki zagranicznej, zeszyty IBDiM Warszawa</li> <li>7. The Asphalt Handbook, AI, 1989</li> <li>8. Lilley, A Handbook of Segmental Paving, 1991</li> </ol> |
|  | Supplementary literature | No requirements.   |
|  | eResources addresses     | Adresy na platformie eNauczanie:   |
| Example issues/<br>example questions/<br>tasks being completed |                          |  |
| Work placement   | Not applicable           |  |

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