GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Management and maintenance of road infrastructure, PG_00062466		
Field of study	Transport		
Date of commencement of studies	February 2024	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Specialty subject group Subject group related to scientific research in the field of study
Mode of study	Full-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 -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Bohdan Dołżycki	
	Teachers	dr inż. Bohdan Dołżycki dr inż. Mariusz Jaczewski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	15.0	15.0	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	25.0	75

Subject objectives

The subject presents the principles of management and maintenance of road infrastructure used in Poland and around the world.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_K02] makes competent and ethical decisions, caring for the public interest and maintaining economic, social and environmental values	Can select pavement repair methods depending on its condition and external factors.	[SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK2] Assessment of progress of work
[K7_W02] explains the importance and interdependence of key components describing transport systems and processes and their environment, using in-depth knowledge in accordance with the main trends in the development of scientific disciplines related to the field of study	Understands the connections between individual pavement features and their impact on the safety of road users..	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
[K7_U01] creates innovative solutions to complex and unstructured problems, taking into account the variability of the environment by synthesizing information from many sources, using analytical, simulation and experimental methods	Knows the systems used to assess the condition of the pavement. Is able to collect input data for them. Is able to assess the condition of the pavement based on the data available.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information

<table>
<tr><td>Subject contents</td><td>1. Road records.

2. Pavement condition diagnostics.

3. Preparation for pavement repair or reconstruction.

4. Selected pavement reconstruction technologies.

5. Surface management.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Subjects:

1. Technologies and materials in road infrastructure maintenance

2. Road and airport infrastructure diagnostics</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Design - pass</td><td>60.0%</td><td>20.0%</td></tr>
<tr><td>Laboratory - pass</td><td>60.0%</td><td>20.0%</td></tr>
<tr><td>Lecture - pass</td><td>60.0%</td><td>60.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Pavement Condition Diagnostics. GDDKiA Materials.

2. Zofka A. Proactive strategy for managing road infrastructure elements. IBDiM Warsaw 2019.

3. Haas R. Hudson R. Pavement asset management. 2015.</td></tr>
<tr><td>Supplementary literature</td><td>1. Piłat J., Radziszewski P.: Asphalt pavements, WKŁ, 2004.

2. Catalog of typical structures of flexible and semi-rigid pavements. GDDKiA, Warsaw, 2014.

3. Catalog of reinforcements and repairs of flexible and semi-rigid pavements. GDDP/IBDiM, Warsaw 2001</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. Describe the DSN system.

2. Describe the procedure for selecting road surface reconstruction technology.

3. Principles for selecting pavement rehabilitation techniques in relation to its technical condition.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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