GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00071776		
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. Jacek Alenowicz	
	Teachers	dr inż. Jacek Alenowicz dr inż. Bohdan Dołżycki	

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/moodle/course/view.php?id=47879

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

Widening of knowledge in the field of road works technology.

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.	Student understands responsibility for the value and reliability of his/ her work and decisions in the field of road and motorway construction.	[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.	Student has ability to recognize adequate technological processes in road construction. Student has ability to chose suitable road construction plant and materials.	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject
[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.	Student understands responsibility resulting from engineer's competence and need for supplementing and widening the knowledge concerning development of road technology	[SK5] Assessment of ability to solve problems that arise in practice
[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.	Student describes results of his work regarding road technologies and formulates correct conclusions with use of appropriate methods.	[SK4] Assessment of communication skills, including language correctness
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	Student recognizes and classifies operational sequence of road construction. Student defines and describes choice of suitable road construction plant and materials.	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects

<table>
<tr><td>Subject contents</td><td>Course content – lecture

Execution of earthworks. Technology of soil stabilization. Construction of base and subbase pavement layers. Construction of bituminous pavement layers. Technology of concrete pavements. Cold and hot recycling of asphalt pavements.

Course content – project

Planning of execution of selected road technology activities. Elaboration of road works technical specification elements. Design of strenghtening of poor subgrade soil and pavement layers with use of geosynthetics. Design of hot mix asphalt
mixture with reclaimed asphalt pavement.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge from the subject "Road and Motorway Construction"</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>Test</td><td>60.0%</td><td>60.0%</td></tr><tr><td>Designing</td><td>100.0%</td><td>40.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>1. Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKŁ, 2010
2. Szydło A.,: Nawierzchnie drogowe z betonu cementowego, Polski Cement, 2004
3. Błażejowski K., Styk S., Technologia warstw asfaltowych, WKŁ, Warszawa, 2009
4. Wytyczne Wykonania i Odbioru Robót Budowlanych (WWiORB), GDDKiA, 2019 - 2025</td></tr><tr><td>Supplementary literature</td><td>2012_CATERPILLAR_Guide to Asphalt Compaction (internet)

2013_CATERPILLAR_Guide to soil compaction (internet)

2016_CATERPILLAR_Guide to Asphalt Paving (internet)</td></tr><tr><td>eResources addresses</td><td>Basic
https://www.gov.pl/web/gddkia/wzorcowe-warunki-wykonania-i-odbioru-robot-budowlanych-wwiorb2 - WWiORB GDDKiA documents</td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Basic (general) rules of construction of road embankments.

Technologies of cold pavement recycling.

Batch plant asphalt mix production. Which componenet of asphalt concrete is not heated in plant drier during mix production process? Why?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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