GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00065917		
Field of study	Civil Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	3.0
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. Marcin Stienss	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	10.0	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	0.0	0.0	20

Subject objectives	Getting basic knowledge on designing of intersections and pavement structures and on technology of road pavements.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W07] Understand the investment's impact on the environment and the interrelationships and dependencies between the building structure and the natural environment	The student has knowledge and demonstrates understanding of the impact of a road investment on the environment and the interconnections and dependencies between the planned road or highway and the natural environment	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.	The student is able to adjust the pavement structure to particular subgrade conditions and road traffic. He knows the basic rules of raod pavements construction and road intersections design.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_U07] Design and build engineering structures in a sustainable manner, with care for the natural environment and a minimum carbon footprint	The student is able to design road construction in a sustainable way, with care for the natural environment and a minimal carbon footprint	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student has the ability to distinguish the characteristics of the basic technological processes in relation to requirements of pavement structure layers and selection of solutions. The student knows the principles of simple road intersection designing. The student is able to assess the conditions of road pavement operation.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
Road facilities. Basics of design of standards intersections. Classification of road pavements.Basics of design of pavement structure. Catalogue of typical pavement structures. Formation layer and capping layer. Road materials (bitumens, aggregates, asphalt mixes). Base layers stabilized with hydraulic binders. Unbound aggregate bases. Asphalt pavements.

Prerequisites and co-requisites

Scope of lectures and designing from the subject "Roads and Motorways I"

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Pass of lectures sem V and VI	60.0%	40.0%
Project I	60.0%	30.0%
Project II	60.0%	30.0%

Recommended reading

Basic literature	1. Wzorce i Standardy projektowania WRD, Ministerstwo Infrastruktury. 2. Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKŁ, 2004 3. Szydło A., Nawierzchnie drogowe z betonu cementowego, Polski Cement, 2004 4. Katalog typowych konstrukcji nawierzchni podatnych i półsztywnych., GDDKiA, Warszawa, 2014
Supplementary literature	1. Błażejowski K., Styk S., Technologia warstw asfaltowych, WKŁ, 2009. 2. Judycki J i wsp.: Analizy i projektowanie konstrukcji nawierzchni podatnych i półsztywnych. WKŁ 2014
eResources addresses	

Example issues/ example questions/ tasks being completed

e-Nauczaniu distance learning course

Practical activites within the subject

Not applicable

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