



Subject card

Subject name and code	, PG_00066675						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2024/2025		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		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 inż. Jacek Alenowicz				
	Teachers		mgr inż. Tomasz Mackun dr inż. Łukasz Mejlun dr inż. Jacek Alenowicz dr inż. Marcin Budzyński dr hab. inż. Piotr Jaskuła dr inż. Marcin Stienss dr inż. Mariusz Jaczewski dr inż. Joanna Wachnicka				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	30.0	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		0.0		0.0	45
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.	Student is able to adjust the pavement structure to particular subgrade conditions and road traffic. He knows the basic rules of road pavements construction and road intersections design.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[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	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
Learning outcomes	[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
	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. PCC pavements. Basics of pavement evaluation.		
	Scope of lectures and designing from the subject "Roads and Motorways I"		
	Subject passing criteria	Passing threshold	Percentage of the final grade
Assessment methods and criteria	Project II	60.0%	30.0%
	Project I	60.0%	30.0%
	Pass of lectures sem V and VI	60.0%	40.0%
Recommended reading	Basic literature		
	1. Wzorce i Standardy projektowania WRD, Ministerstwo Infrastruktury. 2. Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKŁ, 20043. Szydło A., Nawierzchnie drogowe z betonu cementowego, PolskiCement, 20044. Katalog typowych konstrukcji nawierzchni podatnych i półsztywnych., GDDP, 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	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	on e-Nauczanie course	
Work placement	Not applicable	

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