



## Subject card

Subject name and code	Modern technologies in road works, PG_00059876						
Field of study	Civil Engineering						
Date of commencement of studies	February 2025	Academic year of realisation of subject			2025/2026		
Education level	second-cycle studies	Subject group			Optional 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	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			2.0		
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						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	0.0	0.0	30
	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	30		2.0		18.0	50
Subject objectives	Learning about the latest road works technologies.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_K01] is aware of necessity of professional competences improvement; obeys the professional ethics code	The latest technologies for asphalt and portland concrete layers and road pavements.			[SK4] Assessment of communication skills, including language correctness		
	[K7_W07] has expanded knowledge of theory of road and airport pavements, pavement maintenance, advanced methods of material testing and construction technologies	Mechanistic and empirical pavement design. Pavement diagnostics. Pavement assessment and impact on maintenance scenarios.			[SW2] Assessment of knowledge contained in presentation		
	[K7_W15] has deep and adequate knowledge of civil engineering, within offered specialization and profile	Selecting modern road works technology.			[SW1] Assessment of factual knowledge		
	[K7_U15] has advanced skills in civil engineering within offered specialization/profile	Selecting modern road works technology.			[SU2] Assessment of ability to analyse information		
[K7_U08] is able to evaluate technical condition of a road, to design its pavement and choose proper construction technology using mechanistic methods and material investigations	Selection of modern road works technology.			[SU2] Assessment of ability to analyse information			
Subject contents	Recycling of concrete pavements. Recycling of asphalt pavements. Geosynthetics in asphalt pavement layers. Modern assessment of pavement condition and smart pavement and the use of measurements for maintenance scenarios. The use of additives in asphalt mixtures.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
			55.0%		100.0%		

Recommended reading	Basic literature	home N., Principles of pavement engineering, second edition, 2013  Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKiŁ, 2007
	Supplementary literature	home N., Principles of pavement engineering, second edition, 2013  Piłat J., Radziszewski P., Nawierzchnie asfaltowe, WKiŁ, 2007
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1. Functions of geosynthetics in asphalt layers.2. Hot recycling of asphalt layers.	
Work placement	Not applicable	

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