



## Subject card

Subject name and code	, PG_00065280						
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				
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		3.0		
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. Marcin Stienss				
	Teachers		dr inż. Mariusz Jaczewski				
			dr inż. Marcin Stienss				
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		0.0		0.0	45
Subject objectives	Description of the principles of selection, testing and qualification of road technologies and materials used in the maintenance of road infrastructure						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K01] recognizes the importance of knowledge related to the field of study in solving cognitive and practical problems	After completing the course, the student is able to select the appropriate technology and material for the task assigned to him or her to develop a specific road infrastructure maintenance procedure.	[SK5] Assessment of ability to solve problems that arise in practice
	[K7_K02] makes competent and ethical decisions, caring for the public interest and maintaining economic, social and environmental values	After completing the course, the student is able to select appropriate technology and materials for maintaining the road surface, taking into account economic, social and environmental aspects.	[SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work
	[K7_U02] presents logical and solid arguments regarding the obtained results, through analysis, synthesis of information in various technical contexts, critically approaching their interpretation	After completing the course, the student is able to critically evaluate proposed technologies and materials for maintaining road infrastructure in terms of costs and environmental impact, as well as suitability for existing damage.	[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
	[K7_W01] identifies in an in-depth way phenomena related to the field of study as well as theories describing them and possible methods of analyzing processes occurring in the life cycle of technical systems	After completing the course, the student is able to use the knowledge acquired previously in the selection of technologies and materials used in the maintenance of road infrastructure.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[K7_U05] cooperates with other people in the implementation of team work, both as a leader and a team member, effectively achieving set goals	After completing the course, the student is able to cooperate with other people from his/her project group in solving a design task related to the maintenance of road infrastructure.	[SU5] Assessment of ability to present the results of task [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
Subject contents	Summer and winter maintenance technologies. Selection of appropriate technologies depending on existing damage to the pavement and other elements of road infrastructure. Materials for maintaining asphalt pavements. Materials for maintaining concrete pavements. Materials for maintaining unbound and block pavements. Materials for maintaining other road elements (marking, green areas, road barriers). Testing and classification of asphalts. Testing and classification of asphalt emulsions. Testing and classification of materials for unbound surfaces.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Laboratory	60.0%	40.0%
	Exam	60.0%	60.0%
Recommended reading	Basic literature	1. Piłat J. Radziszewski P., <i>Asphalt pavements</i> , 2. Szydło A., <i>Concrete pavments</i> , 3. Stypułkowski B., <i>Issues of maintenance and modernization of roads and streets</i> , 4. Recommended guidelines for roads published by the Ministry of Infrastructure.	
	Supplementary literature	Publikacje występujące w Internecie	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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