



Subject card

Subject name and code	Road infrastructure diagnostics, PG_00062465								
Field of study	Transport								
Date of commencement of studies	February 2026	Academic year of realisation of subject		2026/2027					
Education level	second-cycle studies	Subject group		Specialty 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		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 hab. inż. Piotr Jaskuła							
Lesson types	Teachers								
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar			
Learning activity and number of study hours	Number of study hours	15.0	0.0	15.0	15.0	0.0			
	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		SUM			
	Number of study hours	45	5.0		25.0	75			
Subject objectives	Lecture: Pavement. Diagnostics as a part of the Pavement Management System and legal basis in Poland. Objectives and effects of diagnostics. Scope of tests. Criteria for pavement condition assessment based on DSN system. Diagnostics of airport, non-urban and urban pavements. Models for predicting pavement condition and assessing pavement durability.								
Learning outcomes	Course outcome		Subject outcome		Method of verification				
	[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		Knows the goals and scope of pavement diagnostics.		[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects				
	[K7_U02] presents logical and solid arguments regarding the obtained results, through analysis, synthesis of information in various technical contexts, critically approaching their interpretation		Is able to evaluate the results of the pavement assessment.		[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task				
[K7_K02] makes competent and ethical decisions, caring for the public interest and maintaining economic, social and environmental values		Can indicate the test for prediction of road surface condition.		[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness					

Subject contents	<p>Course content – lecture</p> <p>Lecture: Pavement. Diagnostics as a part of the Pavement Management System and legal basis in Poland. Objectives and effects of diagnostics. Scope of tests (surface condition, evenness, load-bearing capacity, anti-skid, noise) and methodology of pavement condition assessment. Criteria for pavement condition assessment based on DSN system. Diagnostics of airport, non-urban and urban pavements. Models for predicting pavement condition and assessing pavement durability.</p> <p>Lab: Visual assessment of the pavement condition of a selected road section. Pavement deflection tests using the FWD device. Longitudinal and transverse evenness and anti-skid properties of the pavement.</p> <p>Project: Determination of the technical condition of a section of an urban road based on visual assessment. Assessment of pavement load-bearing capacity. Assessment of evenness and anti-skid properties of the pavement.</p>				
Prerequisites and co-requisites					
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade		
	Project	60.0%	50.0%		
Recommended reading	Basic literature	<p>https://www.gov.pl/web/gddkia/diagnostyka-stanu-nawierzchni</p> <p>Diagnostyka Stanu Nawierzchni - https://www.archiwum.gddkia.gov.pl/userfiles/articles/z/zarzadzenia-generalnego-dyrektor_17474/zarzadzenie%2034%20zalacznik%20wytyczne%20stosowania.pdf</p> <p>Jerzy Piłat, Piotr Radziszewski, Nawierzchnie Asfaltowe, Wydawnictwo Komunikacji i Łączności. Warszawa 2007</p> <p>Antoni Szydło, Nawierzchnie drogowe z betonu cementowego, Cement Polski, Kraków 2004</p>			
	Supplementary literature	Thom N., Principles of Pavement Engineering, Emerald Publishing Limited, 2008			
	eResources addresses				
Example issues/example questions/tasks being completed					
Practical activites within the subject	Not applicable				

Document generated electronically. Does not require a seal or signature.