GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00065916		
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. Sławomir Grulkowski	
	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

The aim of the course is to familiarize students with the principles and diagnostic methods for railway infrastructure.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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 knows the basic parameters of the railway track that require diagnostics. He knows the tools and methods of measurement	[SW3] Assessment of knowledge contained in written work and projects
[K6_U07] Design and build engineering structures in a sustainable manner, with care for the natural environment and a minimum carbon footprint	Knows the methods of diagnostic analysis. Can perform simple analysis	[SU2] Assessment of ability to analyse information
[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.	The student is able to classify faults and apply appropriate repair technology.	[SU4] Assessment of ability to use methods and tools
[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 is able to make decisions based on the measurements taken.	[SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
The concept of railway track diagnostics. Track geometry diagnostics. Surface element diagnostics. Jointless track diagnostics. Track substructure diagnostics. Diagnostic tools and devices

Prerequisites and co-requisites

Knowledge of rail transport infrastructure

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
tasks to do	50.0%	50.0%
Test	50.0%	50.0%

Recommended reading	Basic literature	Koc Władysław, Grulkowski Sławomir, Kędra Zbigniew, Nowakowski Mirosław J., Railway Bałuch H., Diagnostics of railway track
	Supplementary literature	Id-8 Railway Surface Diagnostics Instruction
	eResources addresses	
Example issues/ example questions/ tasks being completed	Reading the diagnostic chart	
Practical activites within the subject	Not applicable	

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