GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	DIAGNOSTICS AND CONSTRUCTION OF RAILWAYS, PG_00044202		
Field of study	Civil Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
Education level	first-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	3	Language of instruction	Polish
Semester of study	6	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Railway Engineering -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Zbigniew Kędra	
	Teachers	mgr inż. Natalia Karkosińska-Brzozowska mgr inż. Piotr Omieczyński dr hab. inż. Piotr Chrostowski dr inż. Roksana Licow	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	0.0	15.0	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	5.0	15.0	50

Subject objectives

The aim of the course is to provide basic knowledge of railway track construction and a field of diagnostics of railway superstructure.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U13] knows principles of constrution of roads and railroads; can design a section of a road and railroad; can evaluate the technical condition of a road and railroad infrastructure	Can describe the structure of the railroad and assess the technical condition of the railway infrastructure	
[K6_W10] Has basic knowledge on design, construction and maintenence of roads and railroads	Has a basic knowledge of the construction and diagnostics of a railway track	

Subject contents

Introduction to the diagnosis of rail track

The construction of the railway track

Measurement techniques in railway

Research pavement structure and assessment of: the rails and sleepers ballast connectors

Condition of the track geometries

Assessment of track imperfections

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
colloquium	50.0%	30.0%
design classes report	50.0%	70.0%

Recommended reading	Basic literature	Sławomir Grulkowski, Zbigniew Kędra, Władysław Koc, Mirosław J. Nowakowski, Drogi szynowe, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2013 Henryk Bałuch, Diagnostyka Nawierzchni Kolejowej, WKiŁ, Warszawa 1978
	Supplementary literature	Railway industry instructions and regulations
	eResources addresses	Adresy na platformie eNauczanie: Diagnostyka i budowa dróg szynowych 2023/24 - Moodle ID: 35158 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=35158
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	