GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00064564		
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	5	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Sławomir Grulkowski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	10.0	0.0	0.0	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 student learns basic information about railways. Learns about the elements of railway infrastructure. The student calculates the basic elements of railway line geometry

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U02] Analyse & solve engineering issues & problems in the field of civil engineering by applying appropriate and relevant established analytical, numerical and experimental methods.	The student is able to use appropriate elements of the railway track construction.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.	The student is able to determine and calculate the appropriate parameters of the railway line geometry at the appropriate speed	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
[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 is able to rationally determine the areas of rail transport operation and initially determine the course of a rail route.	[SW1] Assessment of factual knowledge

Subject contents

Features and scope of the railway system in Poland and worldwide

Railway track construction elements

Geometric conditions for designing railway lines

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Projects and exercises	55.0%	50.0%
Final test	55.0%	50.0%

Recommended reading	Basic literature	*1. Szczegółowe warunki techniczne dla modernizacji lub budowy linii kolejowych do prędkości Vmax 250 km/h TOM I Droga Szynowa* (Załącznik nr 3 do uchwały Nr 251/2021, Zarząd PKP Polskie Linie Kolejowe S.A. z dnia 20 kwietnia 2021 r.), PKP PLK, Warszawa, 2021. *2. Standardy Techniczne - szczegółowe warunki techniczne dla modernizacji lub budowy linii kolejowych do prędkości Vmax 200 km/h (dla taboru konwencjonalnego) / 250 km/h (dla taboru z wychylnym pudłem) Tom I Załącznik ST T1 A8 Konstrukcja Nawierzchni Kolejowej* (Załącznik do uchwały Nr 178/2023 Zarządu PKP Polskie Linie Kolejowe S.A. z dnia 7 marca 2023 r.), PKP PLK, Warszawa, 2023. *3. Warunki techniczne, jakim powinny odpowiadać budowle kolejowe i ich usytuowanie* (Dz.U.1998.151.987). 4. Grulkowski S., Koc W., Kędra Z., Nowakowski M., Drogi Szynowe, WPG, 2013
	Supplementary literature	Rozporządzenie Ministra Transportu i Gospodarki Morskiej w sprawie warunków technicznych, jakim powinny odpowiadać budowle kolejowe i ich usytuowanie. Dziennik Ustaw 1998 nr 151 poz. 987. Warunki techniczne utrzymania nawierzchni na liniach kolejowych Id-1 (D-1). PKP PLK S.A., Warszawa 2005 r.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Types of railway rails Characteristic features of railway turnouts Drawing of a cross-section of a railway track Calculation and selection of track cant	
Work placement	Not applicable	

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