GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00073371		
Field of study	Civil Engineering		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	Obligatory subject group 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	1	ECTS credits	2.0
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	15.0	0.0	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	0.0	0.0	30

Subject objectives

The aim of the course is to provide knowledge on the design of track layouts for railway stations and hubs, as well as the implemented transport technologies.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W03] demonstrates in-depth preparation in the application of analytical, numerical and experimental tools and methods to tasks in the construction industry	The student is able to apply an appropriate computational model to determine station parameters and is capable of verifying the calculations	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
[K7_U04] prepares and presents the results of calculations, research and analysis in a coherent and logical manner, together with an in-depth interpretation	The student is able to use the performed calculations to develop a functional diagram of a station and interpret technical drawings	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Railway stations - classification, division of stations, and importance

Shaping the functional diagram of railway stations and hubs

Division of station tracks

The importance of marshalling yards

Railway traffic control at stations

Station throughput

Dispatch and handling functions of stations

Station shunting

Course content – project
Developing a functional diagram of a junction railway station based on station traffic data</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of railway infrastructure and rail traffic engineering</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Lecture</td><td>55.0%</td><td>50.0%</td></tr>
<tr><td>Station design</td><td>70.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Fundamentals of Rail Traffic Engineering - J. Woch

Design of Railway Lines and Stations - A. Massel</td></tr>
<tr><td>Supplementary literature</td><td></td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Calculation of railway station parameters

Functional layout of a station

Types of track connections at stations</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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