



Subject card

Subject name and code	, PG_00059295						
Field of study	Transport						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Zbigniew Kędra					
	Teachers	dr inż. Kamila Szwaczkiewicz dr inż. Zbigniew Kędra					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	15.0	0.0	0.0	45
	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	45	0.0		0.0		45
Subject objectives	The aim of the course is to teach students how to plan track works in the field of: costing, organization and scheduling of repairs railway works.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W14] has advanced knowledge of transport infrastructure maintenance and management to an extent required of the specialty				[SW1] Assessment of factual knowledge		
	[K7_U14] able to solve detailed problems of transport infrastructure to an extent required of the specialty				[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment		
	[K7_W11] has basic knowledge of energy in transport				[SW1] Assessment of factual knowledge		
Subject contents	Lectures: Characteristics and scope of rail road maintenance. Planning railway works. Bill of quantities. Cost estimation rules for railway works. Types and rules of execution of work schedules. Rules for preparing line schedules. Rules for preparing complex schedules. Technology and organization of railway works. Mechanization of railway works. Exercises and laboratory: Elaboration of technology, organization and planning of selected track works (track tamping, ballast cleaning, rail grinding, track and turnout ballasting, material transport, earthworks). Execution of the bill of quantities of railway works. Preparation of cost estimate for railway works. Planning the organization of railway works. Schedule of a repair. Discussion and presentation of the planned repair.						
Prerequisites and co-requisites	Knows the basic technologies of railway works and the basics of their planning.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Laboratory	100.0%	30.0%
	Exercises	60.0%	30.0%
	Lecture	50.0%	40.0%
Recommended reading	Basic literature	<p>Kędra Z.: Technologia robót torowych. Wydawnictwo Politechniki Gdańskiej, Gdańsk, 2017.</p> <p>Warunki techniczne wykonania i odbioru robót nawierzchniowo-podtorzowych. Id-114, PKP PLK S.A.</p> <p>Kędra Z.: Materiały dydaktyczne z wykładów do przedmiotu Utrzymanie dróg szynowych.</p>	
	Supplementary literature	<p>KNR 2-37 Nawierzchnie kolejowe w torach o prześwicie normalnym</p> <p>KNR W-2-37 Budowa i remont nawierzchni torowych, tory o prześwicie normalnym 1435 mm</p> <p>KNP 16 Roboty torowe</p>	
	eResources addresses	Adresy na platformie eNauczenie:	
	Example issues/ example questions/ tasks being completed		
Work placement	Not applicable		