

Subject card

Subject name and code	Transportation engineering, PG_00045986							
Field of study	Civil Engineering							
Date of commencement of studies	February 2024		Academic year of realisation of subject			2024/2025		
Education level	second-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	1		Language of instruction			Polish		
Semester of study	2		ECTS credits		3.0			
Learning profile	general academic profile		Assessment form		assessment			
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering							
Name and surname	Subject supervisor		dr inż. Michał Urbaniak					
of lecturer (lecturers)	Teachers							
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project Semina		Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0		60
	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	60		5.0		10.0		75
Subject objectives	The subject is aimed on basic information regarding design and construction of roads and railway lines and road and railway traffic.							

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PCT_UDG is able to design railway and its construction. Cart ability of geometry design of salivary and its construction. Cart ability of geometry design of salivary and its construction. Cart ability of geometry design of salivary should be interpret its results, propose durability and reliability of railroad elements PCT_WOY] has expanded knowledge of the only of rail and size of railway should be received to construction and size of railway should construct the total construction. PCT_WOR] has deep knowledge of the only of railway teach construction. PCT_WOR] has deep knowledge of the only of railway teach construction. PCT_WOR] has deep knowledge of the only of railway teach construction. PCT_WOR] has deep knowledge of read of railway teach construction. PCT_WOR] has dealed knowledge and renovation of railway and specific part of railway teach construction. PCT_WOR] has dealed knowledge and trenovation of railway and specific part of railway teach construction. PCT_WOR] has expanded knowledge about traffic theory, planting of odd networks and junctions design, regarding environmental specific part of the part of	Learning outcomes	Course outcome	Subject outcome	Method of verification					
knowledge of theory of road and airport pavement, pavement maintenance, advanced methods of material testins, pavement maintenance, advanced methods of material testing, and contruction. RCT_WOSI] the deep knowledge of material testing and contruction including this speed railroads; doing not renovation of alloads of complex geometry, has detailed knowledge about diagnistics of railroads; knowledge about traffic theory, junctions design, regarding economy, settly and environmental aspects [ICT_WOSI] is altered to design elements of road network, to apoly the rules of traffic organisation and control. Listing into account economy, seldly and environmental factors, [ICT_WOSI] is altered to railroad; to design its pavement and choose proper construction technology. Subject contents		tracks of complex geometry on sections and stations, both newly designed and renovated; can make a plan and perform diagnostic of railway track and to interpret its results, propose conclusions; can evaluate durability and reliability of railroad							
railway track construction, including high speed railloads; design and renovation of railroads of complex, geometry, has detailed railloads, know basics of railway traffic organisation and control. [R7, W08] has expanded knowledge about traffic theory, planing of road networks and junctions design, regarding economy, safety and environmental aspects [R7, U07] is able to design elements of road networks and junctions design, regarding economy, safety and environmental aspects [R7, U07] is able to design elements of road network, to apply the rules of traffic organisation and control, taking into account economy, safety and environmental factors. [R7, U08] is able to evaluate to establish the expension of and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and environmental factors. [R7, U08] is able to evaluate to establish the expension of and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and environmental factors. [R7, U08] is able to evaluate to establish the expension of and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and environmental factors. [SU1] Assessment of task fulfilment economy, safety and chose of construction technology. [SU1] Assessment of task fulfilment economy, safety and chose of construction economy, safety and chose of construction economy, safety and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and chose of construction economy, safety and chose of construction economy, safety and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and chose proper construction technology. [SU1] Assessment of task fulfilment economy, safety and chose proper construction technology. [SU1] Assessment design of		knowledge of theory of road and airport pavements, pavement maintenence, advanced methods of material testing and contruction							
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elements of road network, to apply the rules of traffic organisation and control, taking into account economy, safety and environmental factors, K7_U08 Is able to evaluate technical conditio of a road, to design its pavement and choose proper construction technology using mechanistic methods and material investigations or construction technology. Subject contents Geometric design of road. Intersections and interchanges. Earthworks. Soil stabilization. Road bases and subbases. Bituminous materials and mixes. Pavement design. Overview of land transportation systems. Railway system and its elements. Escation, vertical geometry. Principles of track geometry (horizontal curves, transitions, super elevation, vertical geometry). Turmouts. Various types of posts. Railway stations and their classification. Overview of control command systems. Principles of organization of rail passenger transport. Principles of organization of rail freight transport. Rules of railway traffic. Timetabling. Graphic timetables. Prerequisites and co-requisites Subject passing criteria Passing threshold Percentage of the final grade Lectures Test 60.0% 80.0% 20.0%		knowledge about traffic theory, planing of road networks and junctions design, regarding economy, safety and	planning and design and traffic						
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Work placement Not applicable	example questions/								
	Work placement	Not applicable							

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