



Subject card

Subject name and code	Transportation asset management, PG_00053977						
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	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Kazimierz Jamroz				
	Teachers						
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		5.0		10.0	60
Subject objectives	The aim of the course is to present students with modern methods of infrastructure management in transport, with particular emphasis on the methodology used in the TAM Transport Asset Management Method. Acquainting with the TAM planning and implementation process as well as with the individual elements of this process as well as with the detailed methods of road and railway infrastructure management. On this basis, the student should apply the TAM elements on the selected transport network and determine the ranking of sections to be improved.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K7_U14] able to solve detailed problems of transport infrastructure to an extent required of the specialty		The student has in-depth knowledge of problems with maintaining technical infrastructure in the world and the concept of managing transport infrastructure assets. Is able to formulate the policy, strategy and objectives of TAM management for the transport subsystem operating in the analyzed area. Knows and is able to select tools for managing transport assets. Is able to use risk management methods and develop life cycle resource management strategies. Knows the TAM methods used by the proposed ISO, PIARC, IRF and the practical applications of these methods in the management of rail and road transport assets.			[SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment	
	[K7_W11] has basic knowledge of energy in transport		The student has knowledge about the importance of effective demand control and elements of transport systems.			[SW1] Assessment of factual knowledge	
	[K7_W14] has advanced knowledge of transport infrastructure maintenance and management to an extent required of the specialty		The student solves selected detailed problems by preparing a draft plan for the management of transport assets in a selected area (voivodeship, district, city). Selects, checks and applies advanced methods for assessing the functioning and management of the transport system.			[SW3] Assessment of knowledge contained in written work and projects	

Subject contents	<p>LECTURE :: What is Transport Asset Management TAM? TAM policy, strategy and management objectives. Tools for transport asset management. Managing the preparation and implementation of large investment projects, with particular emphasis on transport projects. Risk management. Management strategies life cycle resources PIARC- Practical transport asset management Rail infrastructure management and road infrastructure management. TUTORIALS: Familiarizing students and exercises in the field of: exploring road and rail databases and data on road accidents. Exercises in the preparation of maps of the transport network illustrating selected problems with the use of spatial information methods. Exercises in applying selected methods of ranking and selecting sections for the application of improvements, methods of cost estimation and the effects of applied solutions and improvements. PROJECT: Preparation by student teams of a team project concerning the analysis and evaluation of the functioning of a selected road network (country, voivodeship, poviast or city) and proposing a strategy for carrying out remedial and improvement actions using the TAM methodology</p>											
Prerequisites and co-requisites	<p>Knowledge of the preceding subjects: Fundamentals of Transport Systems, Road Transport Infrastructure, Railway Transport Infrastructure,</p>											
Assessment methods and criteria	<table border="1"> <thead> <tr> <th>Subject passing criteria</th> <th>Passing threshold</th> <th>Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>exercises</td> <td>50.0%</td> <td>50.0%</td> </tr> <tr> <td>lectures</td> <td>50.0%</td> <td>50.0%</td> </tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	exercises	50.0%	50.0%	lectures	50.0%	50.0%		
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Recommended reading	<p>Basic literature</p>	<p>[1]. Road Asset Management Webinar IRF, New York 2020 (IRF 2020) [2]. ISO 55000:2014 Asset management - Overview, principles and terminology[3]. Zofka A.: Proaktywna strategia zarządzania elementami infrastruktury drogowej. IBDM, Warszawa 2019 (Zofka 2019)[4]. Rose Mi., Rose Ma., Sadowski T.: koncepcja kompleksowego zarządzania infrastrukturą transportu. Praca dyplomowa. Politechnika Gdańska 2017.[5]. CEDR: Implementation Guide For An Iso 55001 Asset Management System. A Practical Approach For The Roads Sector In Europe. CEDR 2017[6]. Łunarski J.: Zarządzanie Aktywami Organizacji Według Norm ISO Serii 55000. Technologia I Automatyzacja Montażu nr 3/2017[7]. ITF: Policies to Extend the Life of Road Assets. International Transport Forum. Paris Cedex, Research Report 2018.[(8). ERF: Road Asset Management. An erf position paper for maintaining and improving a Sustainable and efficient road network. European Road Federation. Brussels 2014.</p>										
	<p>Supplementary literature</p>	<p>[1]. PN-ISO 55000: 2017-09 Asset management - General information, principles and terminology[2]. PN-ISO 55001: 2017-08 Asset management - Management systems - Requirements[3]. PN-ISO 55002: 2017-10 Asset management - Management systems - Guidelines for the application of ISO 55001</p>										
	<p>eResources addresses</p>	<p>Adresy na platformie eNauczanie:</p>										

<p>Example issues/ example questions/ tasks being completed</p>	<p>1. What is the crisis of the technical infrastructure? 2. What does transport asset management mean? 3. Describe the concepts of transport infrastructure management? 4. Present the procedure for managing transport assets according to ISO, PIARC and IRF? 5. What is the role of transport asset management policies and strategies? 6. Characterize the basic elements of a transport asset management plan. 7. Present possible scenarios of actions to improve selected transport resources (eg road surface, engineering structures). 8. Give examples of managing transportation assets by country, region or city.</p>
<p>Work placement</p>	<p>Not applicable</p>