GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Transport project management, PG_00044665						
Field of study	Zarządzanie projektami transportowymi						
Date of commencement of studies	October 2022		Academic year of realisation of subject	2025/2026			
Education level	first-cycle studies		Subject group	Optional subject group			
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	4		Language of instruction	Polish			
Semester of study	7		ECTS credits	3.0			
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. Roksana Licow					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	15.0	0.0	45
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=2554						
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	25.0	75		
Subject objectives	The aim of the course is to provide students with knowledge and develop the skills necessary for planning, organizing, implementing, and controlling projects in the transport sector, using railway projects as examples. Students will learn project management methods and tools, the specific characteristics of transport projects, principles for evaluating their effectiveness and risks, and will acquire competencies enabling them to effectively lead interdisciplinary project teams in the transport environment.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] understands the need to formulate and communicate to the public information and opinions on the achievements of environmental engineering and other aspects of work of a sanitary industry engineer; is aware of the importance of and understands non-technical aspects and consequences of engineering; takes steps to communicate such information and opinions in a comprehensible manner and present different points of view	The student is able to formulate and communicate information and opinions regarding transport projects, particularly railway projects, in a clear and understandable manner. The student considers both technical and non-technical aspects of project implementation, as well as potential impacts on society and the environment. The student can present different stakeholder perspectives and responsibly communicate the results of project analyses.	[SK1] Ocena umiejętności pracy w grupie [SK3] Ocena umiejętności organizacji pracy [SK4] Ocena umiejętności komunikacji, w tym poprawności językowej
[K6_W18] has proficiency in transport infrastructure as appropriate for their specialty	The student has structured and advanced knowledge of transport infrastructure, with particular emphasis on railway infrastructure, and understands its functions, significance, and technical requirements in the context of transport project implementation. The student is able to analyze infrastructure components and assess their impact on the course and effectiveness of projects.	[SW1] Ocena wiedzy faktograficznej [SW2] Ocena wiedzy zawartej w prezentacji [SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
[K6_U13] able to select tools and methods, carry out assessments and simple tests of transport infrastructure and means of transport to an extent required of the specialty / learning profile	The student is able to select appropriate methods and tools for analyzing transport projects, particularly railway projects, and can carry out basic assessments and simple studies related to transport infrastructure and vehicles. The student can interpret the obtained results and apply them in the planning and implementation of transport projects.	[SU1] Ocena realizacji zadania [SU2] Ocena umiejętności analizy informacji [SU4] Ocena umiejętności korzystania z metod i narzędzi [SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu

Subject contents

Course content – lecture

1. Introduction to Transport Project Management basic concepts, objectives, and the importance of project management in the transport sector.
2. From Idea to Reality (Feasibility Study) analysis of feasibility studies and preliminary project assumptions in practice.
3. Types of Projects and Financing Options under Public Procurement Law overview of transport project types and sources of funding.
4. Terms of Reference (TOR) in FIDIC Procedures What Is It? basics and significance of TOR in infrastructure projects.
5. TOR Continuation detailed analysis of contract documents and requirements.
6. Challenges in Project Management claims, conditional amounts, necessity protocols, change protocols, and methods for resolving them.
7. Essential Documentation for Efficient Construction Project Execution required documentation and its role in project control.
8. Schedules preparation and monitoring of project work schedules.
9. Risk in Transport Projects identification, analysis, and mitigation methods.
10. Colloquium summary and assessment of knowledge acquired during the course.

Course content – exercises

The work is carried out using examples of real transport projects from documentation analysis to risk assessment and scheduling:

- Analysis of feasibility studies for transport projects.
- Identification of types of transport projects and their sources of financing.
- Practical exercises with Terms of Reference (TOR) documentation in the FIDIC procedure.
- Case study exercises addressing claims, conditional amounts, and necessity/change protocols.
- Preparation of project schedules using computer tools.
- Risk analysis in transport projects identification of hazards and development of risk mitigation methods.
- Preparation of reports and presentation of the results of transport project evaluations.
- Group discussions on practical problems in transport project management.

Course content – project

As part of the project exercises, students carry out a comprehensive transport project covering all stages of project management from planning and documentation analysis, through risk assessment and scheduling, to the preparation of final reports. The project is based on a real transport initiative, such as a railway or road investment.

A key component of the course is a custom case study game, in which students work in teams to make project decisions, solve problems, and analyze the consequences of their actions. The game helps develop competencies in interdisciplinary teamwork, decision-making, and communication within a project team.

The final outcome is the preparation of a complete project document, including a schedule, risk analysis, and recommendations for project implementation.

Prerequisites and co-requisites

The student should have basic knowledge of transport systems, transport infrastructure, and fundamentals of transport engineering. Familiarity with basic management principles and technical-economic analysis is also recommended. Skills in using spreadsheets and basic data analysis competencies are considered an advantage.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Project tasks</td><td>50.0%</td><td>25.0%</td></tr>
<tr><td>Exercises (including quizzes)</td><td>50.0%</td><td>25.0%</td></tr>
<tr><td>Exam / Test</td><td>50.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. FIDIC Yellow Book (Conditions of Contract for Plant and Design-Build)
2. FIDIC Red Book (Conditions of Contract for Construction)
3. Act of 11 September 2019 Public Procurement Law (PZP)
4. Act of 28 March 2003 Railway Transport Law
5. Executive acts concerning railway-road crossings, including, among others:
6. Regulations of the Minister of Infrastructure on railway-road crossings
7. Guidelines regarding safety and signage of railway-road crossings</td></tr>
<tr><td>Supplementary literature</td><td>1. FIDIC Blue Book (Conditions of Contract for Plant and Design-Build, Short Form)
2. FIDIC Silver Book (Conditions of Contract for EPC/Turnkey Projects)
3. Selected textbooks on transport project management, e.g.:
4. Kerzner H., Project Management: A Systems Approach to Planning, Scheduling, and Controlling
5. PMI, A Guide to the Project Management Body of Knowledge (PMBOK Guide)
6. Articles and industry reports on transport projects and railway infrastructure
7. Guidelines and documentation from the Office of Rail Transport (UTK) regarding transport infrastructure planning and safety
8. Publications on risk analysis and evaluation of transport project effectiveness</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">1. Explain the role and significance of a feasibility study (FS) in transport projects.
2. Discuss the differences between projects financed under the Public Procurement Law (PZP) and projects implemented privately.
3. What is a Terms of Reference (TOR) and what are its key elements in the FIDIC procedure?
4. Present the main challenges in transport project management, including claims, conditional amounts, and change protocols.
5. What documents are necessary for the efficient execution of construction works in a transport project?
6. Discuss methods for creating transport project schedules and controlling their implementation.
7. Explain how risks are identified and minimized in transport projects.
8. Using an example of a real railway project, describe how to prepare the final project evaluation report.
9. How can interdisciplinary project teams influence the efficiency of transport project implementation?
10. Discuss the principles of communication and conveying technical and economic information of transport projects in a way that is understandable for various stakeholders.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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