

I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

Project Management in Transportation

1.2 Azonosító (tantárgykód)

BMEEOUMU-4

1.3 Tantárgy jellege

Kontaktórák tanegység

1.4 Óraszámok

Típus	Óraszám / (nap)
Előadás (elmélet)	2

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Félévközi érdemjegy

1.6 Kreditszám

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1.7 Tárgyfelelős

név	Dr. Tóth Csaba
beosztás	Egyetemi docens
email	toth.csaba@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Út és Vasútépítési Tanszék

1.9 A tantárgy weblapja

www.oktatas.bme.hu/BMEEOUMU-4U-4

<https://edu.epito.bme.hu/course/view.php?id=3497>

1.10 Az oktatás nyelve

angol

1.11 Tantárgy típusa

Kötelező az építőmérnöki (BSc) szakon

1.12 Előkövetelmények

1.13 Tantárgyleírás érvényessége

2022. szeptember 1.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

The aim of the course is to acquaint students with the process of carrying out road and rail projects. Students learn about the successive phases, about participants, stakeholders, their role and tasks until the implementation of the infrastructure.

The course also discusses legal issues, technical preparation issues, and technical issues that arise during construction.

Students will be aware of the general challenges and problems encountered during the implementation of the project; they can navigate in the organizational structure of the project management.

2.2 Tanulási eredmények

A tantárgy sikeres teljesítése utána a hallgató

A. Tudás

1. is familiar with the project phases, knows the most important key concepts related to project management,
2. knows the steps and tasks that prepare different projects (strategic planning, decision support, authorization, procurement),
3. is aware of different financing methods,
4. knows the framework and most important technical content of a FIDIC contract,
5. has knowledge on the role and task of the investor / contractor / supervising engineer / operator,
6. is aware of the specific features of road and rail investments.

B. Képesség

1. understands the project management process and the interconnections within the project organisation,
2. is able to weigh, balance and allocate the risks involved in the construction process relevant to the construction contract,
3. is able to identify project-specific adverse events that undermining the timely implementation of the project, and can advise proper mitigation measure to reduce their risk,
4. is able to interpret what is in the basic documentation of the project, organizational plan, and financial calculations.

C. Attitűd

1. cooperates with the tutor/lecturer and with fellow students, develops his/her co-working skills during the teamwork,
2. in his/her manifestations, he/she strives for precise, professional wording,
3. develops precise problem-solving skills.

D. Önállóság és felelősség

1. will be able to work autonomously and/or with individual research to complete his/her tasks,
2. co-operates with his/her fellow students,
3. is able to think in a total system.

2.3 Oktatási módszertan

Lectures, occasional group assignments, situation games.

2.4 Részletes tárgyprogram

Week	Topics of lectures and/or exercise classes
1.	Introduction, basic concepts (road and railway elements) Planning phases, classification of plans, main content
2.	Introduction – from the idea to the operation: progress of a project, infrastructure lifecycle, project lifecycle
3.	Project preparation: project development, project financing, EU financing, strategical background
4.	Project preparation: preliminary studies – feasibility studies, CBA, risk assessment
5.	Main types of construction contracts, selection of the proper contract type, project participants and roles, risk allocation, procurement, project lifecycle
6.	FIDIC – Comparison of the Red Book and the Yellow Book. Dispute resolution procedure in FIDIC. Typical case studies.
7.	Project implementation through the eyes of the road operator. The role of the operator in the period of preparation, implementation and technical handover of investments.
8.	Project organisation of the contractor, the role of the contractor during an infrastructure project
9.	The role of the contractor during a road project – software support of a construction process: calculation, schedule, organization
10.	The role of the employer in the course of an infrastructure project, external/internal environment of an investment
11.	Facilitators and participants in railway projects, particularities of railway projects, general conflicts and problems
12.	Role and tasks of an independent engineer.
13.	Decisions and dilemmas of an independent engineer. Case studies.
14.	Summary, situation games, test.

A félév közbeni munkaszüneti napok miatt a program csak tájékoztató jellegű, a pontos időpontokat a tárgy honlapján elérhető "Részletes féléves ütemterv" tartalmazza.

2.5 Tanulástámogató anyagok

1. Manfred Heindel - Dietrich Richter: Straßen- und Tiefbau: Mit lernfeldorientierten Projekten. Europa-Lehrmittel; 2015
2. Nael G. Bunni: The FIDIC Forms of Contract, 3rd Edition, Wiley-Blackwell, 2005. ISBN: 978-1-405-12031-9
3. European Commission: Guide to cost-benefit analysis of investment projects - Economic appraisal tool for cohesion policy 2014-2020
4. European Commission: Aid Delivery Methods - Volume 1: Project Cycle Management Guidelines, 2004
5. About FIDIC <https://fidic.org/about-us>

2.6 Egyéb tudnivalók

1. Attendance to lectures is 50% mandatory. The signature and credits from the subject will be refused to students missing more
2. Students are evaluated based on their actual individual performance. Students are required to show evidence of their own knowledge and skills.

2.7 Konzultációs lehetőségek

The instructors are available for consultation during their office hours, as advertised on the department website. Special appointments can be requested via e-mail: toth.csaba@emk.bme.hu; bachmann.dora@emk.bme.hu

Jelen TAD az alábbi félévre érvényes:

2024/2025 semester I

II. Tárgykövetelmények

3. A tanulmányi teljesítmény ellenőrzése és értékelése

3.1 Általános szabályok

The assessment of the learning outcomes specified in clause 2.2. above and the evaluation of student performance occurs via test.

3.2 Teljesítményértékelési módszerek

Evaluation form	Abbreviation	Assessed learning outcomes
Midterm test 1	MT1	A.1-A.4; B.1-B.3; C.1-C.3; D.1-D.3
Midterm test 2	MT2	A.1, A.1, A.5, A.6; B.1, B.4; C.1-C.3; D.1-D.3

A szorgalmi időszakban tartott értékelések pontos idejét, a házi feladatok ki- és beadási határidejét a "Részletes féléves ütemterv" tartalmazza, mely elérhető a tárgy honlapján.

3.3 Teljesítményértékelések részaránya a minősítésben

Abbreviation	Score
MT1	50%
MT2	50%
Sum	100%

3.4 Az aláírás megszerzésének feltétele, az aláírás érvényessége

Signature cannot be obtained.

3.5 Érdemjegy megállapítása

Grade	Points (P)
excellent (5)	80%= \leq P
good (4)	70 \leq P<80%
satisfactory (3)	60 \leq P<70%
passed (2)	50 \leq P<60%
failed (1)	P<50

3.6 Javítás és pótlás

1. Due to its nature, active participation cannot be replaced.
2. The test can be repeated –without fee – at a previously determined date given in the course schedule. The test can be repeated twice by paying a previously defined fee.

3.7 A tantárgy elvégzéséhez szükséges tanulmányi munka

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Project Management in Transportation - BMEEOUMU-4

Activity	Hours/semester
contact hours	14×2=28
preparation for the tests	20
Sum	48

3.8 A tárgykövetelmények érvényessége

2022. szeptember 1.

Jelen TAD az alábbi félévre érvényes:

2024/2025 semester I