Project Management in Transportation - BMEEOUVMU-4

I. Subject Specification

1. Basic Data

1.1 Title

Project Management in Transportation

1.2 Code

BMEEOUVMU-4

1.3 Type

Module with associated contact hours

1.4 Contact hours

Type	Hours/week / (days)
Lecture	2

1.5 Evaluation

Midterm grade

1.6 Credits

2

1.7 Coordinator

name	Dr. Tóth Csaba
academic rank	Associate professor
email	toth.csaba@emk.bme.hu

1.8 Department

Department of Highway and Railway Engineering

1.9 Website

www.oktatas.bme.hu/BMEEOUVMU-4U-4
https://fiek2.mywire.org/course/view.php?id=3497

1.10 Language of instruction

english

1.11 Curriculum requirements

Compulsory in the Civil Engineering (BSc) programme

1.12 Prerequisites

1.13 Effective date

1 September 2022

2. Objectives and learning outcomes

2.1 Objectives

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 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

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. Skills

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. Attitudes

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. Autonomy and Responsibility

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 Methods

Lectures, occasional group assignments, situation games.

2.4 Course outline

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 finanacing, 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.

The above programme is tentative and subject to changes due to calendar variations and other reasons specific to the actual semester. Consult the effective detailed course schedule of the course on the subject website.

2.5 Study materials

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 Other information

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 Consultation

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

This Subject Datasheet is valid for:

2023/2024 semester I

II. Subject requirements

Assessment and evaluation of the learning outcomes

3.1 General rules

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

3.2 Assessment methods

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

The dates of deadlines of assignments/homework can be found in the detailed course schedule on the subject's website.

3.3 Evaluation system

Abbreviation	Score
MT1	50%
MT2	50%
Sum	**100%**

3.4 Requirements and validity of signature

Signature cannot be obtained.

3.5 Grading system

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

3.6 Retake and repeat

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 repeaded twice by paying a previously defined fee.

3.7 Estimated workload

Project Management in Transportation - BMEEOUVMU-4

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

3.8 Effective date

1 September 2022

This Subject Datasheet is valid for:

2023/2024 semester I