

COURSE SYLLABUS AND COURSE REQUIREMENTS

ACADEMIC YEAR 2023/24 SEMESTER 2.

<i>Course title</i>	Bridge Construction 1.
<i>Course Code</i>	MSB395AN
<i>Hours/Week: le/pr/lab</i>	1/2/0
<i>Credits</i>	3
<i>Degree Programme</i>	Civil Engineering BSc
<i>Study Mode</i>	full time
<i>Requirements</i>	mid-term grade
<i>Teaching Period</i>	Spring semester (6.)
<i>Prerequisites</i>	Reinforced Concrete Structures 2., Steel Structures 2.
<i>Department(s)</i>	Department of Civil Engineering
<i>Course Director</i>	Dr. Zoltán Orbán
<i>Teaching Staff</i>	Dr. Zoltán Orbán, Dr. Andras Dormany

COURSE DESCRIPTION

During the semester, students will gain an insight into the following topics related to bridge construction: The history of bridge construction from prehistoric times to the present day. Bridge design, construction, use and maintenance standards. Bridge design according to purpose: fixed and movable bridges. Multi-purpose bridges, various utility bypasses. Bridges for pedestrians, cyclists, roads, railways, canals, waterways. Combined bridges in function or material. Functional relationship of bridges with roads and railways. Ensuring navigability for bridges over rivers and bays. Bridge structural systems. Substructures of bridges. Bridge construction technologies. Bridge maintenance.

SYLLABUS

1. GOALS AND OBJECTIVES

The aim of course Bridge Construction 1 is to provide a general knowledge of the structural systems, construction technologies and design methods of various bridge structures, using the knowledge acquired in the Structural subject group. To provide an appropriate level of basic knowledge for further specified studies.

2. COURSE CONTENT

TOPICS

LECTURE	<ol style="list-style-type: none">1. History of bridge construction2. Structural design and systems of bridges3. Bridge construction methods4. Bridge accessories, bridge maintenance
PRACTICE	<ol style="list-style-type: none">1. Design of steel girder plate railway bridge topic2. Design of a ribbed-slab reinforced concrete road bridge

DETAILED SYLLABUS AND COURSE SCHEDULE

LECTURE

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	General information. About bridge construction in general. History of bridges.	[3.]
2.				
3.	Structural systems of bridges I.	[1.] [2.] [3.]		
4.				
5.	Structural systems of bridges II.	[1.] [2.] [3.]		
6.				
7.	Design of bridges	[1.] [2.] [3.]		
8.				
9.	Break			
10.				
11.	Bridge construction Technologies	[2.] [3.]		
12.				
13.	Bridge accessories, bridge maintenance	[2.] [3.]		
14.				
15.	EXAM		Test	14 May

PRACTICE

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	General information			
2.	Design brief for a steel girder plate railway bridge (Assignment 1). Consultation.	[4.]		
3.	Description of assignment task, consultation	[4.]		
4.	Description of assignment task, consultation	[4.]		
5.	Description of assignment task, consultation	[4.]		
6.	Description of assignment task, consultation	[4.]		
7.	Consultation		Submit Assignment 1	18 March
8.	Design brief for ribbed-plate RC road bridge (Assignment 2). Consultation.	[4.]		
9.	Break			
10.	Expo (No class)			
11.	Description of assignment task, consultation	[4.]		
12.	Description of assignment task, consultation	[4.]		
13.	Description of assignment task, consultation	[4.]		
14.	Description of assignment task, consultation	[4.]		
15.	Consultation		Submit Assignment 2	13 May

3. ASSESSMENT AND EVALUATION

ATTENDANCE

Absences from lectures and practical sessions during the semester must not exceed 30%.

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

Attendance sheet

ASSESSMENT

Course resulting in mid-term grade (PTE TVSz 40§(3))

Mid-term assessments, performance evaluation and their ratio in the final grade (The samples in the table to be deleted.)

Type	Assessment	Ratio in the final grade
EXAM	max 50 points	50 %
Assignment 1	max 25 points	25 %
Assignment 2	max 25 points	25 %

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

During the first two weeks of the exam period, you can make up or correct the final exam once.

Grade calculation as a percentage

based on the aggregate performance according to the following table

Course grade	Performance in %
excellent (5)	85 % ...
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

4. SPECIFIED LITERATURE

COMPULSORY READING AND AVAILABILITY

[1.] Reis, Pedro (2019): *Bridge Design*, Wiley, Glasgow.

[2.] ESDEP lecture notes (electronic), Part 1-12

RECOMMENDED LITERATURE AND AVAILABILITY

[3.] Presentation materials in digital format /downloadable/

[4.] Practical guides /downloadable/