

COURSE SYLLABUS AND COURSE REQUIREMENTS

ACADEMIC YEAR 2022/2023 SEMESTER 2

<i>Course title</i>	<i>Timber and Masonry Structures</i>
<i>Course Code</i>	MSB397AN
<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>	Med-term grade
<i>Teaching Period</i>	Spring semester (4)
<i>Prerequisites</i>	Strength of materials 1.
<i>Department(s)</i>	Department of civil Engineering
<i>Course Director</i>	Dr. Orban Zoltan
<i>Teaching Staff</i>	Saied Kashkash

COURSE DESCRIPTION

During the semester, students will gain an insight into the following topics related to the design and dimensioning of timber and masonry structures:

Introduction to construction and design process of timber structures. Structural properties of sawn timber and engineered timber products. Design of structural timber elements in ULS. Timber construction systems and material properties. Cross section subjected to bending, shear, axial load and combined loading. History of masonry structures. Modern usage of masonry. Properties of masonry constituents. Design of masonry walls subjected to vertical load. Stone structures and masonry arches.

SYLLABUS

1. GOALS AND OBJECTIVES

The aim of this course is to provide general knowledge about timber and masonry structures (structural systems, construction technologies and design methods). The students will be able to conduct design using hand calculation and the relevant Eurocodes for different timber and masonry structural elements.

2. COURSE CONTENT

TOPICS

LECTURE	1. Introduction to timber structures, properties of timber 2. Design of timber structures according to Eurocode 5 3. Introduction to masonry structures, properties of masonry 4. Modern usage of masonry 5. Design of masonry structures according to Eurocode 6
PRACTICE	1. Introduction to Relevant Eurocodes 2. Design of Members Subjected to Flexure 3. Design of Members Subjected to Axial 4. Design of Members Combined Axial and Flexural Actions 5. Introduction to Relevant Eurocodes 6. Design of masonry walls

DETAILED SYLLABUS AND COURSE SCHEDULE

ACADEMIC HOLIDAYS INCLUDED

LECTURE

week	Topic	Compulsory reading	Required tasks	Completion date
1.	Introduction of timber structures, properties	[1]		
3.	Design of timber structures to flexure and shear	[1]		
5.	Design of timber structures to Axial loads	[1]		
7.	Design of timber structures to combined action	[1]		
9.	Break	[1]		
11.	Masonry structures introduction Design masonry walls to vertical load	[1]		
13.	Design of masonry wall to horizontal loads	[1]		
15.	Consultation		Test	19 th May

PRACTICE, LABORATORY PRACTICE

week	Topic	Compulsory reading	Required tasks	Completion date,
2.	Timber structure's introduction	[1] , [2]		
4.	Design of timber structures to flexure and shear	[1] , [2]		
6.	Design of timber structures to axial loads	[1] , [2]		
8.	Design of timber structures to combined action. Design masonry walls to vertical load	[1] , [2]	Assignment 1	24 th of March
10.	Expo (no class)			
12.	Design of masonry wall to horizontal loads	[1] , [2]	Assignment 2	16 th May
14.	Consultation			

3. ASSESSMENT AND EVALUATION

Attendance

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

Method for monitoring attendance

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
Assignment 1 Timber	max 20 points	20 %
Assignment 2 Masonry	max 20 points	30 %
Test	max 50 points	50 %

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] Presentation materials in digital format /downloadable/
- [2] Practical guides /downloadable/

RECOMMENDED LITERATURE AND AVAILABILITY

- [3] EN 1996Eurocode 6: Design of masonry structures
- [4] EN 1995Eurocode 5: Design of timber structure
- [5] Structural Timber Design to Eurocode 5 Jack Porteous & Abdy Kermani