

# COURSE SYLLABUS AND COURSE REQUIREMENTS

## 2024/25 1ST SEMESTER

<b>Course title</b>	<i>Building Construction 1</i>
<b>Code</b>	MSB024ANEP
<b>Hours/Week: le/pr/lab</b>	2/3/0
<b>Credits</b>	7
<b>Degree Programme</b>	Civil Engineering Bsc
<b>Study Mode</b>	Full time
<b>Requirements</b>	Exam
<b>Semester</b>	1st
<b>Prerequisites</b>	-
<b>Department</b>	Department of Civil Engineering
<b>Course Director</b>	Dr. Halada Miklós
<b>Teaching Staf</b>	DÁNYI Tibor Zoltán PhD, assistant professor

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## COURSE DESCRIPTION

The course gives the students the theoretical and practical basics of architecture focusing on building structures. The aim is that students be able to understand and create the architectural documentation of a traditional building with proper quality. They also get to know the basic structural system of these buildings and why these structures are built, and what the exact functions of these structures are.

- There are lectures on the topics of the course, each week. The theoretical knowledge will be deepened on practical lessons delivered by the teacher. The students need to prepare the following drawings during the semester:
  - **Structural zones and building materials**
  - **Floor plan and scales**
  - **Brick bound drawing**
  - **Foundation plan**
  - **Lintels**
  - **Staircase construction drawing**
- Students should take 1 test on topics studied on lectures. Can not be used any note.
- During the semester the students can prepare a study according to the topics of lectures for maximum 5 extra points. The theme of the study must be approved by the teacher. These extra points count only if at least 50 points have been obtained from the test and the drawings.
- Kahoot minutes: Maximum 10 extra points earned with Kahoot! count only if at least 50 points have been obtained from the test and the drawings.

During the lectures and practical sessions, students get to know the effects on building structures and their system of requirements, their spatial construction methodology, and their design principles. In addition to the acquisition of basic knowledge, the goal is to acquire the correct and modern engineering way of thinking and behavior.

# SYLLABUS

## 1. GOALS AND OBJECTIVES

The aim of the semester is for the students to get to know the building structures that belong to the main topic of the semester. They learn how to create them. We present the factors that influence their selection. They get to know the design principles and detailed solutions of structures.

## 2. COURSE CONTENT

The Building Constructions 1 course includes:

Regular (weekly) supervisions by an appointed Main Supervisor.

Drawing Tasks (selected number A/2 and A/3 pages) prepared with architectural working drawings documentation (plans, sections, elevations) and with a sufficient number of detail drawings

- **Drawing task 01:** Structural zones and building materials (fundamental structural zones of a small building are introduced (foundation, plinth, walls, slabs, openings, roof), basic line and fill types of architectural drawings are drawn, the students' technical drawing and writing skills are improved by writing a precisely written text

- **Drawing task 02:** Floor plan and scales,( floor plans of the examined small building are drawn in three different scales (1:200, 1:100 and 1:50) with the proper detail level in each mentioned scale)

- **Drawing task 03:** Brick Bound drawing

- **Drawing task 04:** Foundation plan 1:50 (plans of foundation, sections 1:50, 3.details 1:5)

- **Drawing task 05:** Lintels

- **Drawing task 06:** Staircase construction drawing plan (plans of 2 floors, sections 1:25, 3.details 1:5)

Methodology:

Drawing tasks are developed in the practical classes based on the acquired theoretical knowledge and individual and group consultations. During the group session, the instructors help you master the design process of building structures through blackboard editing exercises and consultation of drawing tasks.

	TOPICS
<b>LECTURE</b>	<ol style="list-style-type: none"><li>1. Plan types, scales and plan sizing</li><li>2. Conventional wall structures, brick bounds</li><li>3. Shallow foundations</li><li>4. Wall structures, stone and clay block walls</li><li>5. Concrete block walls, aerated concrete walls</li><li>6. Arched lintels</li><li>7. Openings and lintels</li><li>8. Wall structures</li><li>9. Staircase calculation</li><li>10. R.F. Concrete Staircase, Staircase elements</li><li>11. Timber, steel, glass staircases Acoustic solutions</li><li>12. Chimneys and vents</li><li>13. Deep Foundations</li></ol>
<b>PRACTICE</b>	<ol style="list-style-type: none"><li>1. drawing task: Structural zones and building materials</li><li>2. drawing task: Floor plan and scales</li><li>3. drawing task: Brick Bound drawing</li><li>4. drawing task: Foundation plan</li><li>5. drawing task: Lintels</li><li>6. drawing task: Staircase construction drawing plan</li></ol>

### Formal requirements:

The semester drawings must be submitted on landscape A/2; A/3 drawing sheets or on tracing paper fixed drawing sheets. Each drawing sheet is framed (outlined 5 mm from the edge of the sheet with 0.5 ink), with a drawing stamp in the lower right corner.

Content of the drawing stamp:

- Subject name

- Name, Neptune code
- Name of the drawing
- Scale of the drawing
- Number of the drawing sheet
- Date of creation

**Drawings to be submitted**

**Structural zones and building materials** (floor plan and 2 sections (1:50) 3 pcs. detail drawing (1:10) on drawing sheet A/2)

**Floor plan and scales** (floor plan and 2 sections (1:50) 3 pcs. detail drawing (1:10) on drawing sheet A/2)

**Brick Bound drawing** (detail drawings (1:10) on drawing sheet A/2 or A/3)

**Foundation plan** (detail drawings (1:50) on drawing sheet A/2 or A/3)

**Lintels** (floor plan and 2 sections (1:100) on drawing sheet A/2 or A/3)

**Staircase construction drawing plan**

**DETAILED SYLLABUS AND COURSE SCHEDULE**

**LECTURES**

<i>Week</i>	<b>Topic</b>	<b>Compulsory reading</b>	<b>Required tasks</b>	<b>Completion date, due date</b>
<i>Monday</i> <i>12.00-14.45</i> <i>A317</i>				
<i>1.</i> <i>02/09</i>	Orientation day			
<i>2.</i> <i>09/09</i>	Plan types, scales and plan sizing			
<i>3.</i> <i>16/09</i>	Conventional wall structures, brick bounds	[1.] 8-14.		
<i>4.</i> <i>23/09</i>	Kahoot! minutes Shallow foundations	[1.] 28-38.		
<i>5.</i> <i>30/09</i>	Kahoot! minutes Wall structures, stone and clay block walls	[1.]21-25.		
<i>6.</i> <i>07/10</i>	Kahoot! minutes Concrete block walls, cavity walls	[1.]21-25.		
<i>7.</i> <i>14/10</i>	Kahoot! minutes Arched lintels	[1.] 102-119.		
<i>8.</i> <i>21/10</i>	Kahoot! minutes Openings and lintels	[1.] 102-119.		
<i>9.</i> <i>28/10</i>	Fall break			
<i>10.</i> <i>04/11</i>	Staircase calculation	[1.]63-96.		
<i>11.</i> <i>11/11</i>	Kahoot! minutes R.F.Concrete staircase, staircase elements	[1.]63-96.		

12. 18/11	Kahoot! minutes Timber, steel, glass staircase acoustic solutions	[1.]63-96.		
13. 25/11	Kahoot! minutes Deep foundations	[1.]39-57.		
14. 02/12	Written test			

**PRACTICE**

<i>Week</i> <i>Monday</i> 7.45-9.15 A317	<b>Topic</b>	<b>Compulsory reading</b>	<b>Required tasks</b>	<b>Completion date, due date</b>
1. 02/09.	Orientation day			
2. 09/09.	Drawing task 01: Structural zones and building materials/Semester opening ceremony		Board practice: general building materials and structures	7th week, end of the class
3. 16/09	Consultation			
4. 23/09	Drawing task 02: Floor plan and scales		Board practice: 1:50, 1:100, 1:200 floor plans	10th week, end of the class
5. 30/09	Consultation			
6. 07/10	Drawing task 03: Brick Bound drawing, consultation		Board practice: brick joints	11th week, end of the class
7. 14/10	1st drawing task presentation, consultation			
8. 21/10	Drawing task 04: Foundation plan		Board practice: foundation	11th week, end of the class
9. 28/10	Fall break			
10. 04/11	Drawing task 05: Lintels, consultation, 2nd drawing task presentation		Drawing consultation	13th week, end of the class
11. 11/11	Drawing task 06: Staircase construction drawing plan, 3rd drawing task presentation, consultation		Board practice: staircase	14th week, end of the class

12. 18/11	4th drawing task presentation, consultation			
13. 25/11	5th drawing task presentation, consultation			
14. 02/12	6th drawing task presentation, last retake of the 1-5 drawing tasks			

### 3. ASSESSMENT AND EVALUATION

#### ATTENDANCE

Attendance at the practical classes is verified by presenting the current drawings indicated in the syllabus! The practice leaders keep an attendance sheet, with an entry that has appeared and completed, as well as not appeared or not completed. All issued drawing assignments must be presented in the practical classes, the absence of any drawing assignment means an uncompleted entry.

Attendance at the lecture and practice is mandatory.

#### **Method for monitoring attendance:**

Attendance sheet

#### ASSESSMENT

##### **Drawings:**

1. **Structural zones and building materials**
2. **Floor plan and scales**
3. **Brick bound drawing**
4. **Foundation plan**
5. **Lintels**
6. **Staircase construction**

All drawing assignments must be presented at the time of the practical classes, in the weeks specified in the syllabus. The practice leader evaluates the task and records its result. A drawing task can be evaluated if at least 40% of all parts of the drawing task are completed.

##### **Tests**

Accountability of the knowledge given or referred to in the lectures. Notes cannot be used. The test is written on pre-framed and papers. It will be possible to upgrade the tests in the first week of the exam period. Additional retaking in the second week of the exam period if necessary.

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#### **Course resulting in end-term grade (PTE TVSz 40§(3))**

##### **Mid-term assessments, performance evaluation and their ratio in the final grade**

Type	Assessment	Ratio in the final grade
<b>test</b>	<b>50 p</b> ( min. 20 points)	50 %
<b>1st drawing: building materials</b>	<b>5 p</b> ( min. 2 points)	5 %
<b>2nd drawing: floor plan and scale</b>	<b>10p</b> (min. 4 points)	10 %
<b>3rd drawing: brick bounding</b>	<b>10p</b> (min. 4 points)	10 %
<b>4th drawing: foundation plan</b>	<b>10p</b> (min. 4 points)	10 %
<b>5th drawing: lintels</b>	<b>10p</b> (min. 4 points)	10 %
<b>5th drawing: staircase construction</b>	<b>10p</b> (min. 4 points)	10%

**The condition for obtaining a signature:**

- Obtaining a registration with at least 70% in lectures and practical classes.,
- Submission of the drawing assignments, (the assignment is considered to be evaluable if all drawing elements reach 40% completion)
- Completing the test and achieving a result of at least 40%.

When these are met, the signature will be given and the subject will be graded.

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

Those who did not present their assignment at the time specified in the syllabus can make up for it the following week for a reduced score. Those who presented their assignment at the time specified in the syllabus can correct it to increase points the following week at the latest. Those who did not attend the presentation with proof (medical certificate or permission from the subject supervisor) can make up for it in the next class.

It will be possible to correct/re-submit the last assignment until the end of the second week of the exam period at the time announced by the supervisor.

**Grade calculation as a percentage**

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.] Miklós Halada (2021). Building Constructions 2 - Lecture materials and notes  
[2.] R. BARRY: THE CONSTRUCTION OF BUILDINGS VOLUME 1-5  
[3.] FRANCIS D.K. CHING\_ BUILDING CONSTRUCTION ILLUSTRATED  
[4.] JULIUS PANERO, MARTIN ZELNICK (1979) HUMAN DIMENSION AND INTERIOR SPACE: A SOURCE BOOK OF DESIGN REFERENCE STANDARDS ISBN 0823072711. WATSON-GUPTILL  
[5.] E.NEUFERT, P. NEUFERT (2002). NEUFERT ARCHITECTS' DATA  
[6.] JULIA McMORROUGH (2014). DRAWING FOR ARCHITECTS: HOW TO EXPLORE CONCEPTS, DEFINE ELEMENTS, AND CREATE EFFECTIVE BUILT DESIGN THROUGH ILLUSTRATION