

## COURSE SYLLABUS AND COURSE REQUIREMENTS

### ACADEMIC YEAR 2022-2023 SEMESTER I.

<i>Course title</i>	<i>Building Construction 1.</i>
<i>Course Code</i>	MSB024ANEP
<i>Hours/Week: le/pr/lab</i>	2/3/0
<i>Credits</i>	7
<i>Degree Programme</i>	Civil Engineering
<i>Study Mode</i>	full-time training
<i>Requirements</i>	exam
<i>Teaching Period</i>	Lecture: Monday, 08:30-11:00, Every week, Practice: Monday, 11:15-12:45
<i>Prerequisites</i>	-
<i>Department(s)</i>	Department of Building Structures and Energy Design
<i>Course Director</i>	dr. Miklós Halada
<i>Teaching Staff</i>	dr. Péter Paári
<i>Hours/Week: le/pr/lab</i>	2/3/0

## 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.

## SYLLABUS

### 1. GOALS AND OBJECTIVES

The aim of the semester is for the students to get to know the development directions of building structures, to learn their application and to prepare the related design documentation process. Interpretation and representation of building structures in floor plans and sections. The selection of specific building structures and the factors influencing it. Design principles and detailed solutions of structures.

The course will focus on:

- Structural elements, scale, plan sizing, plan types
- Wall structures
- Shallow foundation, deep foundation
- Openings and lintels
- Staircase

### 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.

*Studio Culture:*

*The course is based on through collaboration, participation and discussions through lessons. This is an interaction between Students and Faculty; used the teaching methods like 'Problem-based learning' and 'learning-by-doing'. The communication and work should reflect a respect for fellow students and their desire to work with regard to noise levels, noxious fumes, etc – from each site of participants.*

**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 1:50</li> <li>5. drawing task: Lintels</li> <li>6. drawing task: Staircase construction drawing plan</li> </ol>

**DETAILED SYLLABUS AND COURSE SCHEDULE**

ACADEMIC HOLIDAYS INCLUDED

**LECTURE**

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Plan types, scales and plan sizing			
2.	Conventional wall structures, brick bounds			
3.	Shallow foundations			
4.	Wall structures, stone and clay block walls			
5.	Concrete block walls, aerated concrete walls			
6.	Arched lintels			
7.	Openings and lintels			
8.	Wall structures			
9.	Holiday			
10.	Staircase calculation			
11.	R.F. Concrete Staircase, Staircase elements			
12.	Timber, steel, glass staircases Acoustic solutions			
13.	Chimneys and vents			
14.	Deep Foundations			
15.	Written test			

**PRACTICE, LABORATORY PRACTICE**

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Drawing task 01: Structural zones and building materials			week 4
2.	Consultation			

3.	Drawing task 02: Floor plan and scales		week 6
4.	1 <sup>st</sup> . drawing presentation, consultation		
5.	Drawing task 03: Brick Bound drawing, consultation		week 7
6.	2 <sup>nd</sup> . drawing task presentation, consultation		
7.	Drawing task 04: Foundation plan, 3 <sup>rd</sup> drawing task presentation		week 10
8.	Consultation		
9.	Holiday		
10.	4 <sup>th</sup> drawing task presentation, consultation		
11.	Drawing task 05: Lintels, consultation		week 13
12.	Drawing task 06: Staircase construction drawing plan, consultation		week 15
13.	5 <sup>th</sup> drawing task presentation, consultation		
14.	Consultation		
15.	6 <sup>th</sup> drawing task presentation, last retake of the 1-5 drawing tasks		

### 3. ASSESSMENT AND EVALUATION

#### **ATTENDANCE**

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

The highest possible grade on the late project (in two weeks) is '2'. The Final Project cannot be turned in late.

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

attendance sheet

#### **ASSESSMENT**

#### **Course-unit with final examination**

#### **Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

Type	Assessment	Weighting as a proportion of the pre-requisite for taking the exam
1. 1 <sup>st</sup> . Drawing Task (min 2p.)	5p.	5 %
2. 2 <sup>nd</sup> . Drawing Task (min. 4p.)	10p.	10 %
3. 3 <sup>rd</sup> . Drawing Task (min. 2p.)	5p.	5 %
4. 4 <sup>th</sup> . Drawing Task (min. 4p.)	10p.	10 %
5. 5 <sup>th</sup> . Drawing Task (min. 4p)	10p.	10 %
6. 6 <sup>th</sup> . Drawing Task (min. 4p)	10p.	10 %
7. Written test (min 20p.)	50p.	50 %

The remaining 100 point will be assessed according Exam. Please note that attendance will adversely affect one's grade, both in direct grade reduction and in missing work in the development of a project.

#### **Requirements for the end-of-semester signature**

accepted drawing tasks with a minimum point (40% of the point) and accepted written test (40 % of the point)

#### **Re-takes for the end-of-semester signature** (PTE TVSz 50§(2))

The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations. All the drawing tasks to be submitted can be repeated/improved each at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

...

**Type of examination:** written

**The exam is successful if the result is minimum 40 %.**

**Calculation of the grade** (TVSz 47§ (3))

The mid-term performance accounts for 50 %, the performance at the exam accounts for 50 % in the calculation of the final grade.

**Calculation of the final grade based on aggregate performance in 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.

## 8. SPECIFIED LITERATURE

### COMPULSORY READING AND AVAILABILITY

[1.] R. Barry: THE CONSTRUCTION OF BUILDINGS Volume 7

[2.] Francis D.k. Ching\_ Building Construction Illustrated

[3.] Julius Panero, Martin Zelnick (1979) Human Dimension and Interior Space: A Source Book of Design Reference Standards ISBN 0823072711. Watson-Guptill

[4.] E.Neufert, P. Neufert (2002). Neufert Architects' Data

[5.] Julia McMorrough (2014). Drawing for Architects: How to Explore Concepts, Define Elements, and Create Effective Built Design through Illustration