# General Information:

**Curriculum:** Architecture BSc

Architecture OTM

**Name of Course: Building Constructions 1.**

**Course Code:** EPE108AN

**Semester:** 1.

**Num,ber of Credits:** 6

**Allotment of Hours per Week:** 1 lecture and 3 practice / week

**Evaluation:** mid-term grade

**Prerequisites:** -

**Course director**: **Dr. Balázs KOKAS, assistant professor**

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## General course description

On this course, the students get to know the basic building structure systems, the most relevant applicable building materials and their most important properties. Structural elements and their design principles are presented that can respond appropriately to environmental effects and ensure the stability of the building while providing interior comfort for the users. In addition to acquiring theoretical knowledge, students interpret the structure of a building and its technical representation through practical tasks.

## Learning outcomes

The goal of the semester is to introduce the students to the basic structural systems and units of simple buildings and how they are designed. By pairing this knowledge with the proper building materials, they should be able to create the structural concept of a small scale building. Architectural presentation of the above, by creating technical plans of appropriate scale and quality.

## Subject content

The course consists of lectures and practices. During the lectures students are introduced to the following topics:

* building structural systems
* environmental effects
* building materials and technologies
* basic building structures (vertical- and horizontal load-bearing structures, foundations, roofs, openings, stairs, insulation and cladding)

On the practical lessons students have to make different kinds of technical drawings about the topics introduced on the lectures. Through the semester a small scaled sample building is analyzed. In the end they have to complete a proper architectural documentation of this simple residential building. The practical lessons include the following topics:

* introductions of basic drawing tools
* technical writing, basic drawing elements (line- and fill types)
* architectural documentation, architectural plan types and their scaling (floor plans, sections, elevations), plans of a small scaled building in 1:100 scale

## Examination and Evaluation System

In all cases. Annex 5 of the Statutes of the University of Pécs, the Code of Studies and Examinations (CSE) of the University of Pécs shall prevail

[*https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022\_06\_23\_ENG.pdf*](https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022_06_23_ENG.pdf)

## Attendance

Attending the lectures is non-mandatory, however it is recommended, attendance at the practical classes is mandatory. Attendance at the practical classes is confirmed by the instructors by consulting about the topics of the classes and by checking the tasks completed at home. The instructors keep an attendance sheet, with an entry of appeared and accomplished, as well as absent / did not perform.

To get the Signature for the course students have to attend at least 70% of the classes and receive an appeared and accomplished entry on the attendance sheet.

*In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.*

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

**Drawing tasks**

The students receive four manual drawing tasks through the semester, which need to be submitted on time, in proper quality in order to successfully pass the course. The students receive specific task sheets from the instructors for each drawing task. The tasks have to be drawn with pencils on A/3 sized technical drawing papers. The drawings can be finalized with black ink or markers that can be rewarded with extra points by the instructors.

Drawing task 01: structural elements and building materials

* structural units and elements of a small scaled building
* basic building materials
* fill types and technical writing

Drawing task 02: drawing scales and measurements

* floor plans of the sample building in different scales (m1:200, m1:100 és m1:50), the required detail levels of the different scales
* measurements of the different scales

Drawing task 03: architectural sections

* simplified longitudinal- and cross-sections of the sample building

Drawing task 04: architectural plans of the sample building

* creation of the architectural plans of the sample building in 1:100 scale
* drawings to submit: floor plan – ground level, floor plan – first storey, sections (cross and longitudinal), elevations (from all four sides)

**Drawing task submission and late-submission opportunities**

Every drawing task has to be submitted according to the deadlines shown in the chart in the Schedule chapter. On the day of the submission deadline, the drawing tasks are presented to the instructors, checked together throughout the class, and evaluated in the end. Drawings submitted and accepted on time can be improved until the late-submission date resulting in a higher score.

If a drawing task is not presented on time or its quality does not match the minimum requirements (receives less than 4 points), it cannot be accepted and has to be re-submitted on the late-submission date.

If a drawing task is not presented or its quality does not match the minimum requirements (receives less than 4 points) even on the late-submission date, it has to be presented on the first week of the exam period, on a specified date discussed with the instructors and the course director.

**Tests and retake opportunitites**

Throughout the semester the students have two Tests on the parectical and theoretical material of the course on a date shown in the chart in the Schedule chapter. Retake opportunity of the tests will be in the first two weeks of the exam period, specified by the course director. To pass the semester, the tests have to be written and completed successfully.

Be advised, the criteria for passing the semester is to reach the minimum points for each and every drawing task and test!

**Ratio of the mid-term assessments in the final grade**

|  |  |  |
| --- | --- | --- |
| **Type** | **Assessment** | **Ration in the final grade** |
| Drawing task 01. | max. 10p | 10% |
| Drawing task 02. | max. 10p | 10% |
| Drawing task 03. | max. 10p | 10% |
| Drawing task 04. | max. 10p | 10% |

|  |  |  |
| --- | --- | --- |
| Test 01. (theory) | max. 30p | 30% |
| Test 02. (practice) | max. 30p | 30% |

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

15th week:

*Signature denied* if

* if the student receives absent / did not perform entry on more than 30% of the practical classes (5 out of 14 occasions). Attention: excused absence also receives and absent / did not perform entry - (cannot be corrected or modified)
* any of the tests is not written or does not reach the minimum level - (can be corrected or modified)
* any of the drawing tasks is not submitted or does not reach the minimum level - (can be corrected or modified)

*Signature given* if – eligible for mid-term grade

* the student receives appeared and accomplished entry on at least 70% of the practical classes,
* all of the drawing tasks are submitted and the minimum level is reached,
* both tests are successfully written with a result of at least 40%

16-17th week:

*Signature denied* if

* any of the drawing tasks is not submitted or does not reach the minimum level - (cannot be corrected or modified)
* any of the tests is not written or does not reach the minimum level - (cannot be corrected or modified)

*Signature given* if – eligible for mid-term grade

* all of the corrected drawing tasks are submitted and the minimum level is reached,
* both tests are successfully written with a result of at least 40%

**Grade calculation as a percentage**

A total of 100 points can be given to the students throughout the semester. Based on this, the following grade calculation is used:

85-100p 85-100% 5 (excellent, A)

70-84p 70-84% 4 (good, B)

55-69p 55-69% 3 (satisfactory, C)

40-54p 40-54% 2 (pass, D)

0-39p 0-39% 1 (fail, F)

## Readings and Reference Materials

**Required**

Building Constructions 1. Learning Material

**Recommended**

Francis D. K. Ching: Architectural Graphics, Fifth Edition. Wiley, Hoboken, New Jersey, USA, 2009.

Francis D. K. Ching: European Building Construction Illustrated. Wiley, Hoboken, New Jersey, USA, 2014.

Andrea DePlazes: Constructing Architecture. Birkhauser, Basel, Switzerland, 2005.

## Methodology

The course is based on collaboration and communication between the students and instructors throughout the semester.

Method:

1. active participation on the lectures (questions can be asked anytime, please indicate with raising your hand)

2. continous consultation on the practical classes based on the topics given in the course syllabus

3. independent work on the practical classes based on the topics given in the course syllabus

4. indipedent work at home

## Schedule

**Lecture (Monday 11:15-12:45 even weeks only)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **week** | **topic** | **compulsory reading**  **page number** | **tasks, assignments,**  **tests** | **completion date, due date** |
| week 01.  (sept. 5. -) | - |  |  |  |
| week 02.  (szept. 12. -) | introduction, structural systems: mass- and filigree constrution, materials and environmental effects | p 8-26. | **-** | **-** |
| week 03.  (sept. 19. -) | - |  |  |  |
| week 04.  (sept. 26. -) | structural elements: vertical load-bearing structures (walls, coloumns) | p 27-44. | **-** | **-** |
| week 05.  (oct. 3. -) | - |  |  |  |
| week 06.  (oct. 10. -) | structural elements: horizontal load-bearing structures (slabs, lintel, ringbeam) | p 45-66. | - | - |
| week 07.  (oct. 17. -) | - |  |  |  |
| week 08.  (oct. 24. -) | structural elements: foundations, partitions | p 67-88. | - | - |
| week 09.  (oct. 31. -) | - |  |  |  |
| week 10.  (nov. 7. -) | structural elements: stairs, openings | p 89-110. | **-** | **-** |
| week 11.  (nov. 14. -) | - |  |  |  |
| week 12.  (nov. 21. -) | structural elements: pitched- and flat-roofs | p 111-128. | - | - |
| week 13.  (nov. 28. -) | - |  |  |  |
| week 14.  (dec. 5. -) | structural elements: insulations, cladding | p 129-149. | - | - |
| week 15.  (dec. 12. -) | **-** |  |  |  |

**Practice (Wednesday 16:45-19:00 PTE MIK A-007 (Kokas, Pethes, Katona, Ali) / Thursday 16:45-19:00 PTE MIK A-008 (Kokas, Paári, Kovács)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **week** | **topic** | **compulsory reading**  **page number** | **tasks, assignments,**  **tests** | **completion date, due date** |
| week 01.  (sept. 5. -) | introduction, drawing tools (boards, rulers, pencils and pens, compasses, templates) | - | - | - |
| week 02.  (szept. 12. -) | structural units and building materials | **-** | **Drawing task 01.**  (deadline: 4th week) | **-** |
| week 03.  (sept. 19. -) | consultation | - | - | - |
| week 04.  (sept. 26. -) | scales and measurements | **-** | **Drawing task 02.** (deadline: 7th week) | **Drawing task 01. submission** |
| week 05.  (oct. 3. -) | consultation | - | - | - |
| week 06.  (oct. 10. -) | consultation, architectural sections | - | **Drawing task 03.** (deadline: 10th week) | - |
| week 07.  (oct. 17. -) | consultation | **-** | **-** | **Drawing task 02. submission**,  Drawing task 01. late-submission |
| week 08.  (oct. 24. -) | consultation, plans of a small scaled building | *-* | **Drawing task 04.** (deadline: 13th week) | *-* |
| week 09.  (oct. 31. -) | **autumn holiday** | - | - | - |
| week 10.  (nov. 7. -) | consultation | **-** | **-** | **Drawing task 03. submission**,  Drawing task 02. late-submission |
| week 11.  (nov. 14. -) | consultation | - | - | - |
| week 12.  (nov. 21. -) | consultation | - | - | - |
| week 13.  (nov. 28. -) | consultation | - | - | **Drawing task 04. submission,**  Drawing task 03. late-submission |
| week 14.  (dec. 5. -) | consultation | **-** | **TEST (theoretical and practical parts)** | **-** |
| week 15.  (dec. 12. -) | consultation | - | - | Drawing task 04. late-submission |

We reserve the right to change the details of this syllabus (dates/locations/clarifications), of which we will inform the students in all cases. Questions and problems that arise during the semester can be addressed to the course director and the institute coordinator during the semester.

Pécs, 2022. 08. 31. dr. Balázs Kokas

course director