# General Information:

**Curriculum:** Architecture Bsc, Architecture OTM,

Name of Course: Building Constructions 2

Course Code: EPE110AN

Semester: 2nd

Number of Credits: 6

Allotment of Hours per Week: 2 Lectures and 4 Practical Lessons /Week

Evaluation: mid-term grade

Prerequisites: Completed Building Constructions 1.

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## General Subject Description

This subject intends to teach the following topics: requirements of building constructions; history of wall structures; walls built from solid bricks and stone, general rules of brick bounds; modern masonry materials, ceramic blocks, partition walls; lintels and openings of load-bearing wall structures; brick and stone arches, reinforced concrete joists; requirements and planning aspects of stairs, interior stairs, structural solutions for curved stairs, interior stairs made of reinforced concrete, metal and wood, stair structures of residential and public buildings, structural design of monolithic reinforced concrete stairs, stair structures made of stone and cast stone, pre-fabricated stair structures. In addition students will be introduced to the regulations and requirements structural design of ring beams, the historical development, types and structural design of arches and lintels. Chimneys and vents.

## Learning Outcomes

This course provides a sound basis for students to improve their construction and structural design skills, through both the theory based lectures and through the practical element of the course, where students are introduced to the construction process of a residential building. This subject includes architectural design projects in the practical part where students can practice and further develop the content of the lectures

The course will focus on:

* Individual design processing, and developing upon relevant methodologies and design techniques
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* Carrying out within a specified time

## Subject content

The following topics represent a part of the lectures: walls, shallow and deep foundations, arches and lintels, stairs and ramps

The Building Constructions 2 course includes the following parts:

* Regular (weekly) supervisions by an appointed Main Supervisor.
* Drawing Tasks (selected number A/2 pages) prepared with architectural drawings and documentation
	1. Brick Bound drawing
	2. Drawings of the 2 story detached house
	3. Foundation plan 1:50
	4. Lintels and arches
	5. Staircase construction drawing plan
	6. Curved staircase plan
* Mid-semester drawing tests

Staircase calculation and drawing

* Final written tests

## 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://english.mik.pte.hu/codes-and-regulations*

Attending is required all classes, and will impact the grade. Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson (it is max. 4 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.

At the time of the practice lessons (LAB), all drawing assignments must be presented in the class each week, otherwise the class will be counted as absence. **A drawing task can be accepted and evaluated if at least 50% of all parts of the drawing task is completed.**

**Studio Culture:**

The course is based on through collaboration, participation and discussions trough 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 be reflect a respect for fellow students and their desire to work with regard to noise levels, noxious fumes, etc – from each site of participants.

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

|  |  |  |
| --- | --- | --- |
| **Type** | **Assessment** | **Ratio in the final grade** |
| *1st. Brick bond drawing* | *max 4 p. min.1,6p* | *4 %* |
| *2nd.Detached house drawing* | *max 15 p. min.6 p* | *15 %* |
| *3rd.Foundation Plan:* | *max 8 p. min.3,2 p* | *8 %* |
| *4th.Arches and lintels drawing* | *max 10 p. min.4 p.* | *10 %* |
| *5th.Staircase drawing* | *max 8 p. min.3,2 p* | *8 %* |
| *6th.Curved staircase plan* | *max 5 p. min.2 p* | *5 %* |
| *Mid-semester drawing tests: staircase calculation and drawing* | *max 10 p. min.4p.* | *10 %* |
| *Final written test* | *max 40 p. min. 16p.* | *40%* |

**If the score of any mid-term assessments does not reach the minimum value, it must be improved!**

**Opportunity and procedure for re-takes**

The specific regulations for improving grades and resitting tests, must be read and applied according to the general Code of Studies and Examinations. E.g.: all tests and assessment tasks can be repeated/improved once every semester, and the tests and home assignments can be repeated/improved once in the first two weeks of the examination period.

**Those who do not present the task at the deadline could present the task on the next educational week. Missed assignments could resubmitted once in the first week of the examination period, at a time announced by the Instructors.**

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

* Attendance of the classes according to the CSE.
* Successful submission of the drawing tasks.
* Submission of the semester drawing until the deadline.
* Passing the mid-semester drawing test
* Passing the final written test

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade: | 5 | 4 | 3 | 2 | 1 |
|  | A, jeles | B, jó | C, közepes | D, elégséges | F, elégtelen |
| Performance in % | 85%-100% | 70%-84% | 55%-69% | 40%-55% | 0-39% |

## Readings and Reference Materials

**Required:**

### Miklós Halada (2021). Building Constructions 2 - Lecture materials and notes

**More:**

1. R. Barry: THE CONSTRUCTION OF BUILDINGS Volume 1-5
2. [Francis](http://www.amazon.com/Roof-Construction-Manual-English-Edition/dp/3764369868) 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](http://joom.ag/WYhb)
4. [E.Neufert, P. Neufert (2002). Neufert Architects' Data](http://joom.ag/0Lhb)
5. Julia McMorrough (2014). Drawing for Architects: How to Explore Concepts, Define Elements, and Create Effective Built Design through Illustration

## Methodology

The course is based on individual architectural skills with regular consultations and presentations.

## Students with Special Needs

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

# Detailed requirements and schedule of the Course

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| Lectures |
| week | **Topic** | **Reference readings**  | **Task** | **Deadline** |
| 1. | Conventional wall structures, brick bounds | [1.] 8.-14. | … | … |
| 2. | Shallow foundations | [1.] 28.-38. |  |  |
| 3. | Clay block walls, aerated concrete walls | [1.] 21.-25. |  |  |
| 4. | Arches and lintels | [2.] 102-119 |  |  |
| 5. | Openings and lintels | [2.] 102-119 |  |  |
| 6. | Wall structures | [1.] 25 |  |  |
| 7. | Stone and adobe walls | [1.] 12. |  |  |
| 8. | Partition walls | [1.] 26 |  |  |
| 9. | **Holiday week** |  |  |  |
| 10. | Staircase calculation | [1.] 63.-96. |  |  |
| 11. | R.F. Concrete Staircase  | [1.] 63.-96. |  |  |
| 12. | Staircase elements | [1.] 63.-96. |  |  |
| 13. | Timber, steel, glass staircasesAcoustic solutions | [1.] 63.-96. |  |  |
| 14. | Deep Foundations | [1.] 39.-57. |  |  |
| 15. | **Final written test** |  | **written test** | 15. week, Lecture time |

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| Labs |
| week | **Topic** | **Reference readings**  | **Task** | **Deadline** |
| 1. | 1st. drawing: Brick Bound drawing 2nd. drawing: 2 storey detached house  |  | **Drawing Board practice:** brick joints |  |
| 2. | Consultation. |  | drawing consultation. |  |
| 3. | **3rd.drawing: foundation plan**  |  | **Board practice:** foundation **1st. drawing presentation** | 3. week, end of the LAB |
| 4. | Consultation. |  | **1st. drawing resubmission** | 4. week, end of the LAB |
| 5. | **4th.drawing: arches and lintels**Consultation. |  | drawing consultation. |  |
| 6. | Consultation |  | **3rd. drawing presentation** | 6. week, end of the LAB |
| 7. | Consultation |  | **3rd. drawing resubmission** | 7. week, end of the LAB |
| 8. | Consultation |  | **4th. drawing presentation** | 8. week, end of the LAB |
| 9. | **Holiday week** |  | individual work |  |
| 10. | **5th.drawing: staircase**Consultation. |  | **4th.. drawing resubmission. Drawing Board practice:** staircase | 10. week, end of the LAB |
| 11. | Consultation |  | drawing consultation | 11. week, end of the LAB |
| 12. | **6th.drawing: curved staircase****Mid-semester drawing tests:**  |  | **Mid-semester drawing tests**  |  |
| 13. | Consultation. |  | **2nd. drawing presentation** | 13. week, end of the LAB |
| 14. | Consultation. |  | **Retake of the mid-semester drawing tests** | 14. week, end of the LAB |
| 15. | **Drawing presentation** |  | **5.,6. drawing presentation** | 15. week, end of the LAB |

We reserve the right to make changes to the details of this course syllabus (date / location / clarifications), which will be communicated to the students. In case of questions and problems that arise during the semester contact the responsible lecturer or the study program coordinator.

Pécs, 28.01.2023

Miklós HALADA dr.

responsible lecturer