

Architect MSc
Building Constructions 1.
Course Code: EPE108AN
Semester: 2021/2022 1. Fall

Course Syllabus
Schedule: Monday 13:15-14:45 (lectures) / Wednesday 16:45-19:15 (practical classes)
Location: PTE MIK, A206 (lectures) / A007 (practical classes)

General Information:

Name of Course:

BUILDING CONSTRUCTIONS 1.

Course Code:

EPE108AN

Semester:

1st

Number of Credits:

6

Allotment of Hours per Week:

3 Practical Lessons and 1 Lecture / Week

Evaluation:

signature (with grade)

Prerequisites:

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Instructors:

Balázs KOKAS, assistant professor

Office: 7624 Hungary, Pécs, Boszorkány út. 2. Office N° É81

E-mail: kokas.balazs@mik.pte.hu

Tibor Zoltán DÁNYI, assistant professor

Office: 7624 Hungary, Pécs, Boszorkány út. 2. Office N° B322

E-mail: danyitiborzoltan@mik.pte.hu

Introduction, Learning Outcomes:

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.

General Course Description and Main Content:

The course consists of lectures and practices. During the lectures students are introduced to basic architectural design methods and presentation of this design in the form of basic technical drawings. The students learn the basic terms and types of these drawings.

When an artificial space is designed it has to be protected against several environmental effects. Students get to know these effects and how we choose different kinds of building structures to create the needed protection. On the basis of the above mentioned the basic building structure systems are introduced to the students.

On the practical lessons students have to make different kinds of technical drawings about the topics introduced on the lectures. In the end they have to complete a simple architectural documentation of a traditional residential building.

The lectures include the following topics:

- architectural technical drawing (drawing tools, types of drawing elements, scales, plan types)
- basic building structure systems and materials (mass construction, skeleton structures)
- environmental effects on buildings and how we guard the interior space and the building against them
- basic building structures (foundations, walls, openings, slabs, stairs, roofs, covering types)

The practical lessons include the following topics:

- introduction of basic drawing tools
- technical writing, basic drawing elements
- basic plan types (site plan, floor plan, section, elevation)
- simple architectural documentation of a small building

Methodology:

The course provides basic architectural skills based on lectures and individual architectural skills with regular consultations and presentations.

Schedule:

	LECTURES (Monday 13:15-14:45 even weeks, PTE MIK A206)	PRACTICAL CLASSES (Wednesday 16:45-19:15, PTE MIK, A007)
week 1 (Sept 6. -)	-	introduction, basic drawing tools (drawing boards, rulers, pencils and pens, compasses, templates)
week 2 (Sept 13. -)	introduction, structural systems: mass- and filigree construciton, building materials and environmental effects	first practical task (<i>deadline: week 04</i>) structural zones and building materials
week 3 (Sept 20. -)	-	consultation
week 4 (Sept 27. -)	basic structural elements: vertical loadbearing structures (walls, coloumns)	submission and evaluation of task 01, second practical task (<i>deadline: week 07</i>) floor plans and scales
week 5 (Oct. 4. -)	-	consultation
week 6 (Oct. 11. -)	basic structural elements: horizontal loadbearing structures (slabs, lintels, ringbeam)	consultation, third practical task (<i>deadline: week 10</i>) building sections
week 7 (Oct. 18. -)	-	submission and evaluation of task 02, late submission of task 01, fourth practical task (<i>deadline: week 13</i>) architectural documentation of a small building
week 8 (Oct. 25. -)	-	<i>(autumn break)</i>
week 9 (Nov. 1. -)	-	consultation
week 10 (Nov. 8. -)	basic structural elements: foundations, partition walls, openings	submission and evaluation of task 03, late submission of task 02, consultation
week 11 (Nov. 15. -)	-	consultation
week 12 (Nov. 22. -)	basic structural elements: roof systems (flat roofs, pitched roofs)	consultation
week 13 (Nov. 29. -)	-	submission and evaluation of task 04, late submission of task 03, consultation
week 14 (Dec. 6. -)	basic structural elements: stairs, insulation and waterproofing	test
week 15 (Dec. 13. -)	-	test retake, late submission of task 04

Drawing tasks and submissions:

The students will have to draw four hand drawn practical tasks through the semester in order to successfully accomplish the course. The practical tasks have to be drawn with pencil; however, they can optionally be finalized with black coloured marker, in which case an extra point can be given by the instructor. Each drawing task has a submission deadline shown in the chart above. On the submission day the tasks have to be presented at the beginning of the practical class. Later on that same class, the drawings are evaluated together and points are given to the students.

If a practical task does not reach the minimum level (8 points) or it is not presented in time, it cannot be accepted, and it will have to be submitted again on the late submission deadline, also shown in the chart. In this case however, the highest possible points for this task is 80% (12p points). On the late submission deadline students can also resubmit accepted drawings in order to enhance their results.

If a drawing task is not acceptable on the late submission deadline, it can be presented one last time, on the last week of the semester, however, in this case the highest possible points for the task is the minimum level (8 points).

	Tasks accepted at the submission deadline (100%)	Tasks accepted at the late-submission deadline (80%)	Tasks submitted at the end of the semester (50%)
1. drawing task	15p	12p	8p
2. drawing task	15p	12p	8p
3. drawing task	15p	12p	8p
4. drawing task	15p	12p	8p

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: building sections

- cross and longitudinal sections of a simplified building are created

Drawing task 04: documentation of a small building

- the complete architectural documentation of the examined building are created in a scale of 1:100
- needed plans: floor plans, sections (cross and longitudinal), elevations (of all four sides of the building)

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 side of participants.

Attendance:

Attending is required on all practical classes, and can 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 lessons (more than 3 practical classes) 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.

Evaluation + Grading

Grading will follow the course structure with the following weight:

Drawing task 01	15p	min. 8p
Drawing task 02	15p	min. 8p
Drawing task 03	15p	min. 8p
Drawing task 04	15p	min. 8p
Test	40p	min. 18p

If the test on the 14th week is failed or missed, a retake possibility is given to the students. One of those is on the 15th week. The last retake date will be arranged for the exam period in consultation with the students.

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. The final grade will be based on the following guidelines:

5. Outstanding work. Execution of work is thoroughly complete and demonstrates a superior level of achievement overall with a clear attention to detail in the production of drawings, models and other forms of representation. The student is able to synthesize the course material with new concepts and ideas in a thoughtful manner, and is able to communicate and articulate those ideas in an exemplary fashion in.

4. High quality work. Student work demonstrates a high level of craft, consistency, and thoroughness throughout drawing and modelling work. The student demonstrates a level of thoughtfulness in addressing concepts and ideas, and participates in group discussions. Work may demonstrate excellence but less consistently than a '5' student.

3 Satisfactory work. Student work addresses all of the project and assignment objectives with few minor or major problems. Graphics and models are complete and satisfactory, exhibiting minor problems in craft and detail.

2. Less than satisfactory work. Graphic and modelling work is substandard, incomplete in significant ways, and lacks craft and attention to detail.

1. Unsatisfactory work. Work exhibits several major and minor problems with basic conceptual premise, lacking both intention and resolution. Physical representation in drawing and models is severely lacking, and is weak in clarity, craft and completeness.

Grading Scale:

Numeric Grade:	5	4	3	2	1
Evaluation in points:	85-100	77-84	66-76	51-65	0-50

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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.

Readings and Reference Materials:

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

Francis D. K. Ching: Building Structures Illustrated, Fifth Edition. Wiley, Hoboken, New Jersey, USA, 2014

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