

Architect

Building Construction 6.

Course code: EPE317AN

Semester: Spring 2020/2021 2.

Schedule: Lecture Wednesday, periods 9.30am-10.15am Location: PTE MIK, A008,

Lab Thursday, periods 16.45pm-20.00pm Location: PTE MIK, A316

Course Syllabus

Microsoft Office Teams

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*General Information:***Name of Course:****BUILDING CONSTRUCTIONS 6****Course Code:**

EPE317AN

Semester:

6th

Number of Credits:

7

Allotment of Hours per Week:

2 Lectures and 4 Practical Lessons /Week

Evaluation:

Signature and exam

Prerequisites:**Completed Building Constructions 5.****Responsible lecturer:****Miklós HALADA dr., associate professor**

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General Subject Description

This subject intends to teach the following topics: requirements of building constructions; industrial halls wide-span structures; methods of spatial construction, design principles of the load bearing elements, walls, pre-fabricated wall structures, partition walls; windows and openings. Beside the basic knowledge, the target of the course is to learn the advanced engineering thinking. A substantial goal is to provide students with ample tools and an understanding of appropriate technologies in the field of widespan structures.

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 widespan structures. 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 Building Constructions 6 course includes:

- o reinforced concrete frame halls
- o steel frame halls
- o laminated timber structures
- o space frames
- o cable structures
- o shell structures
- Regular (weekly) supervisions by an appointed Main Supervisor.
- Drawing Tasks (selected number A/3 pages) prepared with architectural drawings and documentation
 1. Drawings of the reinforced concrete hall (floor plan, sections 1:50)
 2. Drawings of the steel frame hall (floor plan, section 1:50)
 3. Drawings of the laminated timber hall (floor plan, section 1:50)
 4. Drawings of the space frame (floor plans, sections, elevations 1:50)
- Case study presentation and booklet
- Written test

Case study presentation

Presentation of the case study project in front of the class. The presentation time limit is 10 minutes

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. In case of online attendance the scanned or photographed drawings must be uploaded until the beginning of the practice lesson to Microsoft Office 365 Teams (in the best possible quality) in JPG. or PDF. format. If uploading is blocked, please send it to the email address of the instructor.

A drawing task can be accepted and evaluated if at least 50% of all parts of the drawing task have been completed.

The accepted drawings which are submitted according the deadline will be evaluated with extra points. Those who do not present the task at the deadline could present the drawing by the evaluation of the next drawing task, in this case the extra point is missed. Missed assignments can be resubmitted once in the first week of the examination period, at a time announced by the supervisor. In case of resubmissions in the examination period, the final point will be reduced with the score of the extra points.

Grading will follow the course structure with the following weight:

1. drawing task reinforced concrete hall:	10 point	2 extra point
2. drawing task steel frame hall:	10 point	2 extra point
3. drawing task laminated timber hall:	10 point	2 extra point
4. drawing task space frame:	10 point	2 extra point

Case Study presentation: 12 point

Written test: 40 point

maximum score of the semester: 100 point

Oral exam: questions about the topics of semester

Offered exam grade: Offered exam grade can be given by the responsible lecturer if the student reach at least 71 point with the semester assignments.

The final grade will be based on the following guidelines:

(Grade 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.

(Grade 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 an '5' student.

(Grade 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.

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

(Grade 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
	A, excellent	B, good	C, avarage	D, satisfactory	F, Fail
Evaluation in points:	85%-100%	71%-84%	60%-70%	50%-59%	0-49%

Readings and Reference Materials**Required:**

- Heino Engel (2007) Tragsysteme Structure System
- Francis D. K. Ching: Building Structures Illustrated, Fifth Edition. Wiley, Hoboken, New Jersey, USA, 2014

More:

- E.Neufert, P. Neufert (2002). Neufert Architects' Data
- <https://www.kingspan.com/>
- <http://www.lindab.com/>

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

Schedule

The semester is divided into two principle periods and attendant exercises.

The rough outline of the schedule is as follows:

	Lecture	Lab
1.	Description of the semester study program Introduction	Description of the semester study program
2.	Structures of reinforced concrete framed halls	First drawing task: reinforced concrete hall Board practice
3.	Foundations, flooring and walls	Consultation
4.	Details of R.F. concrete halls	Presentation of first drawing task
5.	Structures of steel framed halls	Second drawing task: steel frame hall Board practice
6.	Details of steel frame halls	Consultation
7.	Online Site visit Market hall, Pécs	Presentation of second drawing Resubmission of first drawing task
8.	Structural systems Timber frame structures	Third drawing task: timber frame hall Board practice
9.	Details of timber frame halls	Consultation
10.	holiday week	holiday week
11.	Space frames	Presentation of third drawing Resubmission of second drawing task
12.	Cable structures	Fourth drawing task: space frame Board practice
13.	Shell Structures	Consultation
14.	Written test	Presentation of space frame drawing Resubmission third drawing task
15.	CASE STUDY PRESENTATION	CASE STUDY PRESENTATION

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 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.

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 emergency, the student must present a valid excuse, such as a doctor's note.

Please join the lectures and labs personally or online via Microsoft Office 365 Teams system. During the online learning period the the attendance will be fixed automatically by Microsoft Office 365 Teams. **Please be active online!**

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, 01.02.2021

Miklós HALADA dr.
responsible lecturer