**General Information:**

**Name of Course: Building Constructions 3**

**Course Code:** EPE099AN

**Semester:** 3th

**Number of Credits:** 7

**Allotment of Hours per Week:** 15 Practical Lessons /Week

**Evaluation:** Signature and Exam

**Prerequisites: Completed Building Constructions 2**

**Instructors: Dr Miklós Halada, associate professor**

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## General Subject Description

The primary intention of this subject is to teach students the following theoretical topics: drawing representation of slab, roof structures, wooden roof structures and joinery, Chevron roof structures, vacant and collar beam roof structures, purlin roof structures, roof structures with one, two and multiple support members, roof structure with slanted support members, purlin roofs with struts, mansard roof structures, hipped roof structures, carpenter joints, suspended roof structures.

Slab structures. Roofing, imbricate roof structures, tough roofing systems, tile roofing, concrete roof tiles, slate roofs, wooden and thatched roofs, boarded roofs, flashing and guttering, breakthroughs in roofing, metal plates, chimneys and gravitational ventilation. The topics listed above serve as a basic theoretical knowledge for students and are complimented by practical sessions where students work through the design of a residential building. This subject includes an architectural design project in the practical part (marked with a P) where students can practice and further develop the content of the lectures (marked with an L).

## 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 Building Constructions 2 course includes:

* Regular (weekly) supervisions by an appointed Main Supervisor.
* Drawing Tasks (selected number A/2 pages) prepared with architectural working drawings documentation (plans, sections, elevations 1:50) and with a sufficient number of detail drawings (1:10)
  + Roof shape drawing 1:200 – 1:100 (floor plan and 2 side views)
  + Curved staircase 1:20 (floor plan and section)
  + Slab plan 1:50, 1:10 (floor plan, 2section, 3 details)
  + Working drawings of the 2 storey detached house 1:50, 1:10 (2 floor plans, 2 sections, 3 details)
  + Roof plan (floor plan, 2 sections, 3 details)
* Mid-semester design practice
  + Slab plan design
  + Roof plan design

## 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) 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. Roof shape drawing: 5 point 1 extra point
2. Working drawings of the 2 storey detached house: 25 point 5 extra point
3. Slab plan: 10 point 2 extra point
4. Roof plan: 10 point 2 extra point

**Written test: 40 point**

**EXAM:**

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:**

# [Eberhard Schunk](http://www.amazon.co.uk/s/ref=dp_byline_sr_book_1?ie=UTF8&text=Eberhard+Schunk&search-alias=books-uk&field-author=Eberhard+Schunk&sort=relevancerank) (2003) Roof Construction Manual,

<http://www.amazon.com/Roof-Construction-Manual-English-Edition/dp/3764369868>

**More:**

# [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)

# [E.Neufert, P. Neufert (2002). Neufert Architects' Data](http://joom.ag/0Lhb)

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

## 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. | Determining of roof shapes | 1st. drawing task: Roof shape drawing  2nd. drawing task: Detached house  Design practice: Roof Shape |
| 2. | Conventional slab structures | 1st. drawing presentation  Consultation |
| 3. | Slab structures, precast slabs | Consultation  1st. drawing resubmission |
| 4. | Conventional roof structures, Strut less and strutted purlin roofs, couple and collar roofs. Conventional timberwork details Mansard roofs, Half pitched roofs, Low sloped roof. | Design practice: Slab Plan  Consultation  Working drawing floor plans signature  3th. drawing task: Slab plan |
| 5. | Hipped roof design rules | Consultation |
| 6. | Complex roof structures, rules of arrangement  King-post roof structures | Design practice: Roof plan  4 th drawing task: Roof structure drawing Consultation |
| 7. | Engineering roof structures and timberwork. Loft structures | Consultation |
| 8. | **HOLIDAY** | HOLIDAY |
| 9. | Roof covers, Ceramic roof tiles | Consultation  4 th. drawing task prsentation |
| 10. | Metal sheet roofing, details | **Roof plan signature**  **3 th drawing resubmission** |
| 11. | Slate roof covers | 4 th drawing task presentation  Consultation |
| 12. | Thatched and straw roof, Wooden Roof Shingles, bitumen roof covers | 4 th drawing task resubmission  Consultation |
| 13. | Roof gutter and drainage system | Consultation |
| 14. | Roof cover breakthroughs. Additional roof cover elements | Consultation  2nd. drawing task prsentation |
| 15. | Written test | Final drawing submission |

**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.

**Attendance:**

Attending is required all classes. 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.

**Please join the lectures and labs personally or online via Microsoft Office 365 Teams system. During the online learning period 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.

Miklós HALADA dr.

responsible lecturer

Pécs, 26.08.2021