**Building Construction II.**

**Code: MFMAG32SS4-EN**

**ECTS Credit Points: 4**

**Evaluation: exam**

Year, Semester: 3rd year/1st semester

Number of teaching hours/week:

Lecture: **2**

Practice: **2**

**Prerequisites:** Building Construction I: MFMAG31S04-EN

**Topics**:

Load bearing structures (walls, frames, floors, stairs, foundation). Wall-type buildings. Load bearing and space-limiting walls. Lintel, ring-beam. Homogeneous and mixed walls. Systems of constructions and buildings (panels and cast wall constructions, frames of reinforced concrete, steel and wood, dry-tech constructions, ready-made buildings). Monolithic RC walls. Partitions. Horizontal load-bearing structures. Dense-rib, floor block, hollow ceramic block, self-form working floors. Comparative evaluation of alternatives. Design principles and rules of floor systems. Balconies. Structures and roofing of pitched roofs, built-in roof spaces. Structural variants of wooden roof trusses. Transitional and engineered roof trusses. Steel and RC pitched roof structures. Roof cladding. Soft sheet and plate covers. Metal structures of roof covers. Variants of sheet metal covers. Energy balance of buildings: components, geometric ratio and ground plan arrangement of buildings, natural ventilation, energetic requirements, specific heat demand, procedure of energetic design and checking.

In seminar there are six tasks to elaborate: 3 homework drawings and 3 workshop drawings.

**Literature:**

AMBROSE, James E.: Building structures, ISBN 0471540609 Wiley, New York 1993.

BÖHÖNYEY, J.: Building construction encyclopedia. Iparterv, Budapest 1986.

**Schedule**

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| **1st week:****Lecture:** Wall-type buildings 1.**Practice:** issuing the task 1 (homework drawing). Elaborating the workshop drawing 1.**2nd week:** **Lecture:** Wall-type buildings 2.**Practice:** consultation of task 1 (homework drawing)**3rd week:****Lecture:** Wall-type buildings 3.**Practice:** consultation of task 1 (homework drawing)**4th week:****Lecture:** Horizontal load-bearing structures 1.**Practice:** consultation of task 1 (homework drawing)**5th week:****Lecture:** Horizontal load-bearing structures 2.**Practice:** submitting task 1 (homework drawing). Elaborating workshop drawing 2. | **6th week:****Lecture:** Horizontal load-bearing structures 3.**Practice:** Issuing task 2 (homework drawing). Elaborating workshop drawing 3.**7th week:****Lecture: Mid-term test****Practice:** consultation of task 2 (homework drawing)**8th week:****Lecture:** Pitched roof 1. **Practice:** consultation of task 2 (homework drawing)**9th week:****Lecture:** Pitched roof 2.**Practice:** consultation of task 2 (homework drawing)**10th week:****Lecture:** Pitched roof 3.**Practice:** submitting task 2 (homework drawing). Issuing task 3 (homework drawing).  |
| **11th week:****Lecture:** Roof cladding 1. **Practice:** consultation of task 3 (homework drawing)**12th week:****Lecture:** Roof cladding 2. **Practice:** consultation of task 3 (homework drawing) | **13th week:****Lecture:** Passive houses 1. **Practice:** consultation of task 3 (homework drawing)**14th week:****Lecture:** Passive houses 2.**Practice:** submitting task 3 (homework drawing).**15th week:****End-term test** |

**Requirements**

**A, for a signature:**

Attendance at **lectures** is recommended, but not compulsory.

Participation at **practice classes** is compulsory. Students must attend the practice classes and may not miss more than three times during the semester. In case a student does so, the subject will not be signed and the student must repeat the course. Students can’t make up a practice with another group. Attendance at practice will be recorded by the practice leader. Being late is counted as an absence. In case of further absences, a medical certificate needs to be presented. Students are required to bring a calculator to each practice class. Active participation is evaluated by the teacher every class. If a student’s behavior or conduct doesn’t meet the requirements of active participation, the teacher may evaluate his/her participation as an absence due to the lack of active participation in class.

Students have to **submit all the six drawing tasks** as scheduled minimum at a sufficient level.

During the semester there are two tests: the mid-term test in the 7th week and the end-term test in the 15th week. Students have to sit for the tests.

Homework drawings: 3 x 25 points = 75 points

Tests: 2 x 25 points = 50 points

Workshop drawings: bonus points (max. 5, for all)

Mid-semester points Σ 125 points

For signature students must achieve more than 50% of points (63 points).

**B, for a grade:**

The course ends in an **exam (ESE)**.

Mid-semester points: 125 points

Colloquium (ESE): 50 points

Σ 175 points

Score Grade

0-87 fail (1)

88-109 pass (2)

110-131 satisfactory (3)

132-153 good (4)

154-175 excellent (5)