Tárgytematika / Course Description

Structural Engineering 2.

EKNB_EETA023

Tárgyfelelős neve / Teacher's name: dr. Somfai Attila
Félév / Semester: 2021/22/2
Beszámolási forma / Assesment: Folyamatos számonkérés
Tárgy heti óraszáma / Teaching hours(week): 0/2/0
Tárgy féléves óraszáma / Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

The aim of the course is to emphasize the role of *building structure design* in the process of building design. Students can gain experience in developing complex designs and unique detail solutions for a building with demanding architectural solutions while carrying out individual exercises.

TANTÁRGY TARTALMA / DESCRIPTION

Theme of the semester work: The plans to be processed are plans of buildings published in architectural journals, having good architectural quality and interesting structural problems. The selected building must be first analysed and then processed in an execution design-level documentation with modifications appropriate to local conditions. During the construction work, it will be an important consideration to complete the architectural intentions of the original design in the details.

According to the usual processing levels of architectural design, the semester work is divided into three sub-tasks:

1. analysis and criticism of the building, using the building's draft design documentation,

2. the solution of the building and its structures until the usual detail of the permit plans,

3. complete solution of the building and its structures until the details of the execution design.

Work of students is supported and shaped by consultations. Specific designation of sub-tasks, the theme and direction of the development, will be defined in cooperation with the consultants during the work process. The solutions of the tasks will be presented to the entire class by the students on design layouts and projected images. Designs and presentations can be made using any technique. Computer processing is highly recommended. But consultation is only possible with printed drawings. After the presentations, the consultants give their opinions on the work and put it to debate in front of the audience. During the semester, the presentations will be evaluated jointly and individually by the consultants. Individual tasks to be completed in the course will include the preparation of a pre-defined study and the resolution of a closed-room task for a predefined building.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Only students who meet all the following conditions may receive end-of-semester signatures: (1) Ongoing consultation during the semester. The case will be recorded by the consultants. (2) Submission of the **building structure study.** (3) Presentation of the **second part task** according to schedule. (4) The documentation of the second part task is provided according to the schedule and (5) at least sufficient classification of the documentation. In the event of insufficient replacement, the six-month work cannot be continued. (6) Preparation of the **practical closed-room task** and (7) at least sufficient classification of the closed-room task. (8) Presentation of the **third part task** according to the schedule. (9) Submission of the documentation of the third subtask according to the schedule and (10) at least sufficient classification of the documentation.

The half-yearly mark will be derived from the weighted average of all marks obtained during the semester with simple rounding. In all cases, the evaluation of tasks is five-stage: Excellent (5), Good (4), Medium (3), Sufficient (2) and Insufficient (1). In the case of replacement practice, submission or presentation, the better mark will be valid.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

During the semester, students are required to acquire a special knowledge material based on systematic, independent research. More recommended literature:

Andrea Deplazes: Constructing Architecture: Materials, Processes, Structures

Francis D. K. Ching, Mark Mulville: European Building Construction Illustrated

Rem Koolhaas: Elements of Architecture

Stephen Emmitt: Barry's Introduction to Construction of Buildings

Stephen Emmitt: Barry's Advanced Construction of Buildings

Derek Osbourn, Roger Greeno: Mitchell’s Introduction to Building

Roy Chudley, Roger Greeno: Construction Technology

Roy Chudley, Roger Greeno: Building Construction Handbook

Bruce Bassler: Architectural Graphic Standards

Graham Bizley: Architecture in Detail

David Kent Ballast: Architect’s Handbook of Construction Detailing