

Building Analysis Exercise

“No matter how good an architect you are, if you have no chance of expressing your poetic idea in structures, you lack the very foundation of architecture. The structure is a language, a way of expressing yourself, and there should be a balance between thought and language. Every story has a structure.”

Sverre Fehn

According to Sverre Fehn, structures plays an important role in the design of buildings not only from a point of stability but as an essential part of the design thinking. In the Building Analysis Exercise, these two aspects of a building structure should be explored in more depth. In groups of three you should extract the structure of the selected building by examining pictures, architectural drawings and texts about the building.

Based on this information a digital 3d-model of the structural system should be built in Rhino. Your model should include the necessary ground information, too. In the model you should focus on the primary elements of the structural system. Secondary elements like floor beams or details of the joints between elements are not required. Use an axonometric view of your model as base for a refined line drawing similar to the final exercise in Digital Storytelling. In addition, three sections should be taken that enable you to discuss how the structure system is taking care of loads in x, y and z-direction. For each of these sections the inner force flow should be integrated into the line drawing as hatching differentiated for compression and tension.

An A3-template is available for the final submission of your analysis. In addition to the drawings you need to include a representative image of the building and basic project data. Furthermore a short text with a basic project description, the primary organization of the structural system and its functionality with respect to the three main load directions. In addition, you should reflect on the role of structure within the selected project and the abovementioned quote by Sverre Fehn.

Suggested Schedule

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|------------|---|
| 27.10.2020 | grouping & selection of project; collection of basic information on building |
| 03.11.2020 | collection of basic information on building & identification of structural system |
| 10.11.2020 | analysis of structural system |
| 17.11.2020 | analysis of structural system |
| 24.11.2020 | analysis of structural system & drawing |
| 01.12.2020 | drawing & text |
| 08.12.2020 | submission |

Q&A sessions can be used for questions on the building.



Aalto University

Your submission (as group) should contain a zip-file with your Rhino-model and your A3 poster as indd-file and pdf. Upload your zip-file at the course page at MyCourses. Deadline is Tuesday 8.12.2020 at 18:00!

Evaluation is based on the correctness of the model (20%), the craftsmanship of the drawings (20%), the correct and complete analysis of the structural behavior (30%), well-argued relation between structure and architecture (10%), and the quality of the writing that is spelling, grammar and language (20%).

