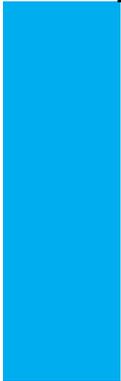


Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Xiaoyu Xu
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Studio	
Name / Theme	Heritage / The future of structuralism
Teachers / tutors	Tutor architecture (main): Lidy Meijers Tutor architecture: Lidwine Spoormans Tutor building technology: Frank Koopman Tutor cultural value: Ivan Nevzgodin
Argumentation of choice of the studio	I have seen a lot of old buildings, a lot of old towns, some of them are still thriving, some of them are not. However most of them have lost the original charming character, and the clues about their past beauty and powerful appearance have been hidden for a long time. For me, helping these buildings to extend their existing value and Reveal their beauty has always been my passion and desire. I love to design within a context, a rule, or a theme rather than design from nothing. The studio of heritage and architecture is always offering designing opportunities like this. Especially for the Centraal Beheer building, I was fascinated by the opportunity of re-bring liveliness into this significant building.

Graduation project	
Title of the graduation project	Revitalization of the Centraal Beheer building in Apeldoorn
Goal	
Location:	Prins Willem-Alexanderlaan Apeldoorn The Netherlands
The posed problem,	General description for the problem:

	<p>The Centraal Beheer building is among one of the most significant buildings during the Dutch structuralism movement. The same with other structuralism icons, its existence is at stake: the building is now vacant and cannot meet contemporary demands. What is the future value and possibility of Centraal Beheer? Has the building proofed what is promised? Has the building really being a city and can continue to be a city in the future? Can the aesthetic of number and repetition continue to be valuable for nowadays?</p> <p>These are all problems and challenges for the revitalization of this building.</p> <p>Sub-problems:</p> <p>Lack of natural light, especially in the center and lower floors;</p> <p>As a “city” , the building Lack of a large public “Plaza” -like gathering space for its “citizen” , the inner streets are narrow, which lead to losing orientation and getting lost;</p> <p>Unequal condition in privacy, acoustic, lighting, climate, among all repeating units;</p> <p>Insufficient vertical connection and uncomfortable vertical routing;</p> <p>Energy lose and insufficient thermal insulation;</p> <p>Terrible entrance situation and sequence, original entrances wasted.</p>
research questions and	<p>Large scale:</p> <p>What kind of programmatic possibilities can fit into the space of Centraal Beheer, and function well in the</p>

	repeating spaces, with liveliness? Small scale: How to adapt to the unequal situation among units and add value to it? How to reveal the beauty of the building, and enable its spatial order to adapt to the surrounding environment? What would be a proper vertical connection inside this building?
design assignment in which these result.	
Design assignment 1. Analyzing the historical background and the idea of Dutch structuralism; 2. Analyzing and depicting how these ideas were presented in 6 structuralism icons; 3. Perceiving what could be the core value and what could be a common problem for structuralism buildings; 4. Use the pros and cons of structuralism to form a starting point for design and research; 5. Research on what kind of programmatic possibilities can fit into the space of Centraal Beheer, and adapt the program to the unequal situation of the building; 6. Research on how to increase liveliness in different scales, learn from the theory of Jan Gehl; 7. Research and design on how to deal with the surrounding environment and what could be a suitable relation between the existing building order and the order of the adding part; 8. Research and design on the possibility of enhancing the original city theory and how to deal with the inner street idea; 9. Research and design on the transition from private to public, and the sequence of routings; 10. Research and design on the building technology of removing and adding; 11. detailing and finalizing the design with diagrams, drawings, renderings, photographs etc.	
Process	
Method description	
Analyzing: 1.Chrono-mapping 2.Value mapping (3x matrix) 3.Mapping levels of significance (prioritizing values 3x) 4.Defining dilemma's 5.Opportunities and obligations	

Individual Research & Design:

1. Research on the movement of structuralism by literature or other means;
 2. Case study on heritage transformations;
 3. Drawing of design possibilities in pencil sketch;
 3. Computational aided design with sketch up, Rhino, etc., and try to find the optimal solution for the original research question;
- Besides various possibilities will be proposed and compared to reach the final design solution.

Literature and general practical preference

Meurs, Paul /Heritage based design (2016)

Byard, P.S. / The Architecture of Additions. New York: W.W. Norton & Co. (1998)

Herman Hertzberger/Architecture and Structuralism_ The Ordering of Space. (2015)

Cantecazino, S. / Re-Architecture. Old Buildings, New Uses. London: Abbeville Press. (1989)

Zumthor, P., 2006. Thin king architecture. Basel: Birkhäuser.

Alois Riegl, 1903. The Modern Cult of monuments. Its essence and development

Jacobs, J., 1961. The Dead and Life of Great American Cities. New York: Random House.

Gehl, J., 2011. Life between Buildings. Washington: Island Press.

Reflection

Relevance

The Dutch Structuralism represents an architecture that can interact, grow and adapt. The buildings can be recognized by their vivid open structures, composition of many small units, and spatial organization like a city. Starting in 1959, Dutch Structuralism became a very influential movement in the development of architecture in The Netherlands. But what happened ever since? Although some of the Structuralist buildings became icons, their future is need to be reconsidered. Many buildings are faced with drastic transformation or demolish, because they do not meet contemporary demands. Despite the design of open structures, being flexible for the future by extrapolation of the structure or adaptation within the building, the buildings show shortcomings in indoor climate, aesthetic appearance and programmatic possibilities. Thus, in my research, what is the future value of Structuralism can be answered in a direction of my design.

Time planning

Semester 1 (week 1.1 – week 1.10)

- Research on the Structuralism theory and buildings, visit the icons and analyze Centraal Beheer;

Semester 2 (week 2.1 – week 2.10)

- 2 week: Formulate a basic program
- 2 week: Formulate a basic spatial proposal to fix the problems analyzed of the building
- 2 week: Formulate a basic order to arrange the surroundings and entrance square
- 2 week: Design the sequence of entering the building, make basic sections and plans to indicate the use of each space
- 2 week: Integrate the stuff above (programs, draft designs, plans, sections, master plans, etc.) as an ensemble

Semester 3 (week 3.1 – week 3.10)

- 2 week: work on fragments
- 2 week: work on facades
- 2 week: work on the atrium and education spaces
- 2 week: work on the apartments
- 2 week: Integrate the stuff above and draw perspectives of story board for living inside the building

Semester 4 (week 4.1 – week 4.10)

- 2 week: details
- 2 week: Final design and P4 (site 1:5000 / 1:1000, plan ground level 1:500, plans, elevations, sections of the building 1:200 / 1:100, plans, elevations, sections of the unit, model)
- 2 week: Refine
- 2 week: Refine
- 2 week: Summary of outcome