

# 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](mailto: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	Irene Louer
Student number	
Telephone number	
Private e-mail address	

Studio		
Name / Theme	Rotterdam Harbour Heritage	
Main mentor	Lidy Meijers	Chair of Heritage & Design
Second mentor	Frank Koopman	Chair of Heritage & Technology
Argumentation of choice of the studio	<p>One of the aspects of designing from heritage that appeal to me, is the added layer of complexity that is connected to designing from an existing building and its context. The architect does not start with a 'blank slate', but is faced with questions of value: f.e. the values represented by the building (in its current state) and the added value of his design choices. This added complexity can be seen as a challenge for the designer.</p> <p>Also, I am convinced that in the future, heritage (re-)design projects will become a major part of the architectural assignments, especially in densely built areas like the west of the Netherlands. It is not desirable, from a sustainability point of view, to endlessly built new buildings without considering the potential of the existing ones. In this sense, the Heritage and Architecture graduation studio comes very close to what I think my future task as an architect will be.</p>	

Graduation project	
Title of the graduation project	Katoenveem: from cotton warehouse to arts centre
Goal	
Location:	Keilestraat 39 3029 BP Rotterdam The Netherlands

<p>The posed problem,</p>	<p><u>Harbour Heritage</u></p> <p>Due to rapid economic growth following the construction of the Nieuwe Waterweg, the city of Rotterdam transformed into a harbour city of high international importance. New harbours were constructed and together with them new warehouses and complexes for i.a. the transshipment of goods. Katoenveem was one of those buildings, built at the newly constructed harbour of Keilehaven.</p> <p>Since the Second World War, the importance of the harbour has declined and the main harbour activities moved towards the west of the city, where bigger and deeper harbours were constructed since. The 19<sup>th</sup> and 20<sup>th</sup> century harbours, former industrial areas and transshipment buildings lost their 'position' and function.</p> <p>Nowadays, the 19<sup>th</sup> and 20<sup>th</sup> century harbours and the buildings present there are again seen as an asset for the city or Rotterdam, as they located near central areas of the city and therefore offer many opportunities for redevelopment. The problem lies in the possibility to adapt these buildings to a new function and how this new function reflects or enhances the historical relationship of these buildings with the water, the harbour and the city.</p> <p><u>Katoenveem</u></p> <p>The Katoenveem was completed in 1920 and its primary function was a warehouse for cotton. Katoenveem was established in Rotterdam in order to conquer a part of the cotton market after a shift in the cotton markets in Europe following the First World War. The building had to meet high safety standards because of the risk of spontaneous combustion of cotton powder in the air. Therefore, a sprinkler system was integrated in the building. Other innovative techniques used in the building was the Hennebique construction system and an electrical railing system to transport and store the bales of cotton.</p> <p>The timeline of the building is characterized by alternating periods of degression and progression. The building was in use as a cotton warehouse until 1964, afterwards several parts were demolished. Since 1964, parts of the building have been temporarily used for storage and as an atelier, nowadays the building is vacant and in a state of disrepair.</p>
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Figure 1 Katoenveem - current situation, February 26<sup>th</sup>, 2020. Own photograph.

research  
questions and

What are the requirements of a cultural programme implemented in the adaptive re-use of Katoenveem, in order for it to become a catalyst for the transformation of Merwe-Vierhavens, and to be future-proof in light of changing future (societal and climatological) conditions?

- What are the current plans for the area transformation and what kind of programme answers the needs of the new area residents and users?
- What are the requirements of a cultural programme in the light of future societal changes and/or technological development?
- What are the consequences of climate change for Katoenveem and what is (/are) a strategy(/ies) to cope with these consequences?

design assignment in which these result.

How can an arts centre within Katoenveem contribute to the (re)connection of the building with the historical context being part of the harbour heritage in Rotterdam and with the local context, while creating an engaging user-friendly environment?

- What is the relationship of the building and the new cultural programme with the water, the city and the harbour and how is this connection established or enhanced in the design?
- In what way can the adaptive re-use of Katoenveem establish (new) relationship(s) and/or connect with the local context?
- What are the spatial possibilities of the transformation of Katoenveem into an art centre that engages and inspires its visitor/users?
- What is the significance of the historical function and values of the building within the new design and new programme and how can they be articulated in the new design?
- What are the consequences and/or requirements for construction, structure, climate design because of the new programme?

The questions mentioned here are the core of the design assignment. Findings from the research conducted during the P2 phase are developed into questions of spatial design, which will be further explored during the P3 and P4 phase of the graduation project. An initial design concept will be presented at the P2 presentation.

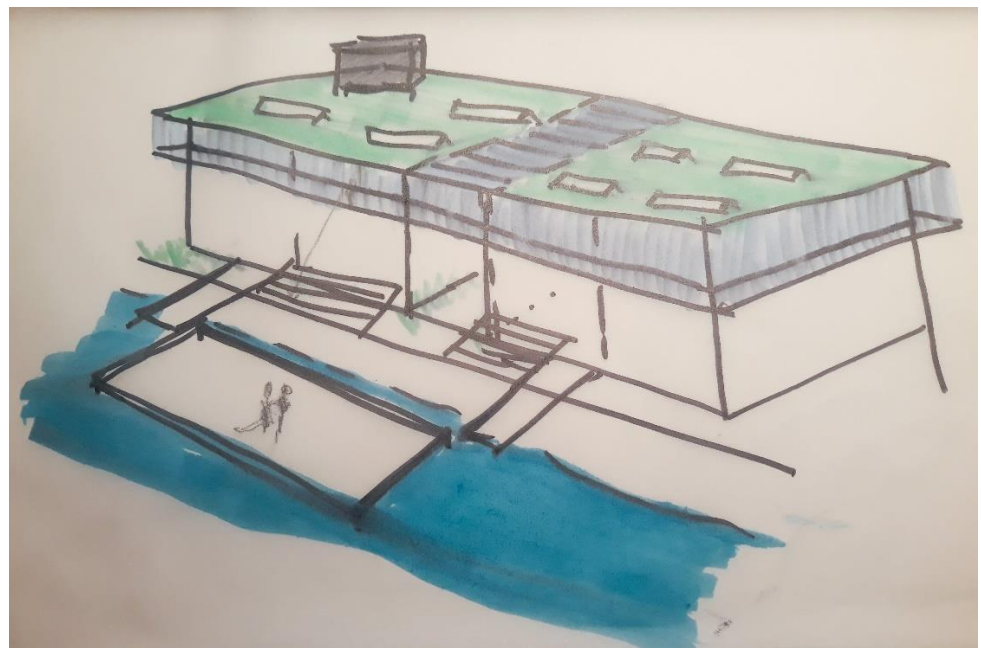


Figure 2 Sketch of Katoenveem and an enhanced relationship with the waterside. Several interventions on the roof and facades visible. Own sketch.

## Process

### Method description

During this graduation project, several research and design methods will be used:

- Analysis: an in-depth analysis of the building was realized during the P1 phase of this graduation project. Additional analyses can be done based on new findings from the building, after a possible building visit (this was not possible yet due to coronavirus) and fieldwork conducted there.
- Precedents research / Reference projects: comparing existing and/or unrealized projects and design proposals by others with my own design proposal through the study of photographs/images, drawings and text.
- Research by design: while exploring possibilities for (the implementation of the programme within) my own design, I compare possible outcomes and through an iterative process enhance the quality of the design by learning from past considerations/mistakes (trial/error). Design possibilities are explored through sketching or by making 3D models.
- Literature: by reading publications on topics related to my design questions I learn from my predecessors and peers and implement their knowledge in my own design.

### Literature and general practical preference

During the research and design process have consulted and I intend to consult the following publications:

Bureau voor Bouwhistorie en Architectuurgeschiedenis. (2005). *Bouwhistorische verkenning Katoenveem, Keilestraat 39, Rotterdam*.

Ching, F. D. K. (2012). *Architecture: Form, Space, and Order*. Wiley.

Erwine, B. (2016). *Creating Sensory Spaces: The Architecture of the Invisible*. Taylor & Francis.

Hendriks, L., & Van der Hoeve, J. (2009). *Guidelines for Building Archeological Research: The interpretation and analysis of cultural-historical heritage*. Cultural Heritage Agency.

Kuipers, M., & de Jonge, W. (2017). *Designing from Heritage: Strategies for Conservation and Conversion*. TU Delft.

Mason, R. (2002). Assessing values in conservation planning: methodological issues and choices. In M. De la Torre & I. Getty Conservation (Eds.), *Assessing the values of cultural heritage: research report* (pp. 5-30). Los Angeles: Getty Conservation Institute.

Malnar, J. M., & Vodvarka, F. (2004). *Sensory Design*. University of Minnesota Press.

Meurs, P. (2016). *Heritage-based design*. TU Delft – Heritage & Architecture

Pallasmaa, J. (2012). *The Eyes of the Skin: Architecture and the Senses*. Wiley.

## Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The topic of my graduation project is centred around the possibility of the reuse of a heritage building in a former industrial/harbour area of Rotterdam. The final design proposal can be seen as an example of how the reuse of harbour heritage (studio topic) could be realised and what kind of approach and/or considerations it is based on.

Within the larger context of the master track architecture, it is an example of how in an architectural design one can preserve/maintain culture-historical values of an old/existing building while at the same time proposing a futureproof and innovative design solution. Other studios within the architecture track might take cultural-historical aspects into consideration as well, but do not necessarily assume an existing building as a starting point for the design. The graduation project is, however, an answer on a design-centred question, which is the case in all the graduation projects within the Architecture track.

Within the different tracks of the whole master programme, this harbour heritage design assignment would be considered from a different point of view (by each track), one that would possibly not result in an architectural design for the building. The main topic of the whole master programme is centred around the built environment, and in this sense, my graduation project is certainly relevant within the master programme.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

On a larger social, professional and scientific scale, my graduation work is a contribution to the knowledge about heritage-based design, through the research conducted and the design proposal developed, which can offer valuable insights for fellow architects and not only. Since the research and design process is transdisciplinary, this graduation work is still relevant outside the field of architecture itself. Closely related disciplines are for example history, sociology, psychology, philosophy. In incorporating and considering these and other disciplines within my graduation work it could be an example and a source of information and inspiration for others.