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	**S Engelsma**
Student number	4665686

Studio		
Name / Theme	Explore Lab	
Main mentor	R.R.J. van de Pas	Architecture
Second mentor	M. Billow	Research & Building Engineer
Argumentation of choice of the studio	In this studio I was able to combine my artwork as a fibre artist with my passion for architecture. The second argument is that I needed an adopted schedule due to my chronical migraines	

Graduation project	
Title of the graduation project	**Wool in Architecture – the aesthetic value**
Goal	
Location:	Weverijmuseum Geldrop
The posed problem,	Millions of kilos of wool are being thrown away as the material is not useful in the fast fashion clothing industry, while we need the sheep to maintain our nature. Architecture might be a solution to use wool in a bigger scale. But while useful as insulation, it might also have other uses, which formed the basis for the research question.
research questions and	In which way can wool be used in architecture to achieve its optimum aesthetic value?
design assignment in which these result.	The design assignments will be a redesign of the Weverijmuseum in Geldrop where the connection with its wool-history got lost. The results of the research will give me tools to create this connection again and find uses for wool in architecture.

Process

Method description

During the research will be used several methods and techniques of research. First there will be some references collected to show already some opportunities for the wool-application in architecture. Then there will be made some prototypes which show how it can be applied in different layers of a building, according to the shearing layers by Brand. At last, these prototypes will be assessed by individuals with and without a background of architecture to find the aesthetic value. This will be done with a questionnaire during an exposition. The results of the questionnaire will form the opinion about optimum aesthetic value of wool.

After the research, the prototypes will help to develop architectural tools for the redesign of the monument the Weverijmusuem. By making models and visualisation of the location, it will be possible to apply the results of the research. Also, the museum has been contacted for their input on wishes and things the museum is lacking, for example the inspiration of visitors to come over. Next to this, I made my own conclusion that this museum has lost the connection with its original wool-history, which I want to bring back not only with the material, but also social impact on the site and the museum

Literature and general practical references

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Patagonian Steppe: combination of direct and indirect effects. Ecosystems, 12(4), 686–697. https://doi.org/10.1007/s10021-009-9252-6

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Engelsma, S. (2024) Questionnaire Wool in Architecture. https://forms.gle/fYrycQxxRuL3GrHy7

Reflection

1. The relationship is between my graduation project and Explore Lab is that it brings a new view on a material which has not been thought of much other then insulation. It's about aesthetic value, which brings the connection to the master track Architecture closer than any other track within the MSc AUBS.
2. The use of wool as a material in architecture is often regarded through a lens of functionality and sturdiness. What was missing was what the aesthetical value of wool could be and how it could be applied in other roles than insulation. The relevance of the graduation work is therefore to produce ideas for products that show the potential of aesthetic and the usefulness in architecture.