

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	Xinrui Li
Student number	5068002

Studio		
Name / Theme	Architectural Engineering	
Main mentor	Anne Snijders	Design tutor
Second mentor	Jos de Krieger	Research tutor
	Gilbert Koskamp	Building Technology tutor
Argumentation of choice of the studio	<p>Architectural Engineering Studio has a strong focus on integrating design strategies in which circularity, energy transition, and synergy with ecosystems are crucial. These are crucial for the development and transition of our future world. As a future architect, I am willing to gain a deeper understanding and solid experience in these aspects.</p> <p>On the other hand, the research method of 'flow' provides me with a new insight into understanding the metabolism of our environment. I believe this method could contribute to architectural design more systematically and rationally.</p>	

Graduation project	
Title of the graduation project	Under the Common Roof: a community marketplace and elderly co-housing complex in Amsterdam
Goal	
Location:	Amsterdam
The posed problem,	<p>The municipality of Amsterdam is proposing a new community entrance building for Houthaven neighbourhood. The site situated between the newly transformed high-end Houthaven neighbourhood and the characteristic Amsterdam style social housing Spaarndammer neighbourhood, which gives the potential of constructing a meeting space.</p> <p>The two neighbourhoods have different historical background, architectural features and residence. Thus, it is crucial to find the connections which unites both of them. The potential for my design is found through the continuous urban greenery from the urban context.</p>

<p>research questions and</p>	<p>To explore the concept of 'urban nature' in the new residential neighborhood of Amsterdam, the research begins with discovering the local greenery from the urban context, followed by exploring a new material flow based on the circular economy principle, and eventually how to implement the new value chain in the urban context of Amsterdam. The research questions progress as follows:</p> <ol style="list-style-type: none"> 1. What are the characteristics of Amsterdam's local hinterland? How can the waste streams from the local hinterland converts into a potential resource for the city? 2. What is the potential of implementing a new local material flow based on biodegradable building material from agricultural residue? 3. What are the local rituals of Amsterdam? How do they take place in a modern urban context? 4. How can the new material flow incorporate with the rituals through an architectural interpretation?
<p>design assignment in which these result.</p>	<p>The graduation project integrates the concept of urban nature through two scales, the neighbourhood scale and the urban scale.</p> <p>The architectural design proposes a marketplace and an elderly co-housing for the two neighborhood as an architectural intervention which on the one hand accommodates the requirement of residence, and on the other hand, added new possibilities for public life.</p>
<p>Process</p>	
<p>Method description</p>	
<p>Literature research Various literature from books, publications, and scientific papers provides information and real cases of the goal, strategies, and development of the 'slow city movement'. By reviewing this literature, I can gain an understanding of the current trends as well as issues of urban lifestyle, which forms the background of my design project.</p> <p>Mapping Mapping is used in two aspects. Firstly, it is used to do a territorial analysis of Amsterdam's hinterland. After a general study, a specific area is selected for further research on organic waste streams. Secondly, mapping is also used when studying the ritual of the market. It provides an overview of how and where this ritual is practiced in the city and offers a potential site for the new architectural intervention.</p> <p>Material flow analysis Material flow analysis (MFA) is the main methodology of the research paper. It offers a way to systematically understand the current situation of material between the city and the hinterland and provides a potential for re-organizing the waste streams.</p> <p>On-site research (observation, photography, drawing)</p>	

The aim of visiting the site and several markets (open market in Delft, Santa Catalina market in Barcelona) is to understand the organization and specific characteristics of market space, and how these markets fit in the nearby communities.

Literature and general practical preference

ARCAM, *De Amsterdam Scheggen Manifest*

Arup, *The Urban Bio-loop*

Carol Steel, *Hungry City: How Food Shapes Our Lives*

Carol Steel, *Sitopia*

Ganotopoulou Eleni, *Biodegradable materials: A research and design handbook.*

Hans Karssenbergh, Jeroen Laven, *Public Space and Placemaking in Netherlands*

Hsueh, M., Zhang, D. *High Quality Urban Environment Out of 'Slow Design'*

Richard Sennett, *The Fall of Public Man*

Peter Blundell Jones, *Architecture and Ritual*

Yoshinobu Ashihara, *Exterior Design in Architecture*

Blackburn, R. S., *Biodegradable and Sustainable Fibers*

Durra panel, *Straw panel brand*

EcoCocon, *Straw panel brand*

Van Hier, *organic material brand*

Hiss Reed, *reed building material brand*

Organoid, *Natural interior surface brand*

Santa Catalina Market, *Architecture project in Barcelona*

Open Market, *Traditional Market in Delft*

Reflection

1. My graduation project follows the theme "Harvest" of aE studio. Within my project, I explore the relationship between the urban area and the hinterland through organic material flow, focusing on agricultural land, food, and biodegradable building material. From a larger perspective, my research and design project aim to create a new material flow scenario under the principle of circular economy, which is also the focal point of the studio. Apart from studying the technical aspects. From the architectural perspective, my design incorporates the strategy of using biodegradable building materials in modern architecture, which resonates with the technical focus of the studio.
2. My graduation project seeks to create an urban public architecture that responds to the current needs of society that support and strengthen the connection between the local hinterland and city by incorporating markets, workshops, and elderly facilities. It also strives to highlight the potential of usage of local biodegradable materials in modern architecture, which not only, makes it more accessible and engageable for urban communities, but also encourages a potential future of regenerative building material culture.