

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	Emmy Vermeulen
Student number	4881869

Studio		
Name / Theme	AR3AD110 Dwelling Graduation Studio: Designing for Care in an Inclusive Environment	
Main mentor	Birgit Jurgenhake	Architecture and the Built Environment, Housing Building and Housing Design
Second mentor: Building Technology mentor	Annemarie Eijkelenboom	Architectural Engineering + Environmental & Climate Design
Third mentor: Research	Birgitte Hansen	Architecture and the Built Environment, Qualitative Research
Argumentation of choice of the studio	<p>My choice for the Dwelling Graduation Studio: Designing for Care in an Inclusive Environment is driven by my academic and personal interest in the role of architecture in creating inclusive and caring living environments. During my earlier research on feminist architecture, for the history thesis, I was inspired to further explore how design can contribute to social inclusivity. Specifically in the context of care, exclusivity can be extremely harmful, and I believe that architecture and urban design play a crucial role in addressing this by creating spaces that foster connection and well-being.</p> <p>The theme of the studio, which does not limit care to healthcare but also considers care in the broader context of communities, resonates with my vision of architecture as a tool to create inclusive and caring urban environments.</p>	

Graduation project	
Title of the graduation project	From Care Networks to Care Nodes: A New Approach to Community Design
Goal	
Location:	Polislandstraat, Tarwewijk, Rotterdam, Netherlands

<p>The posed problem,</p>	<p>In modern urban neighborhoods, particularly those facing socio-economic challenges like Tarwewijk in Rotterdam, care networks, both formal and informal, are fragmented and often insufficient to address the diverse needs of residents. This fragmentation exacerbates social isolation, limits access to resources, and undermines the potential for mutual support, all of which are crucial for fostering well-being in vulnerable communities.</p> <p>While research has extensively examined the social dynamics of care, there is a lack of focus on the spatial and architectural dimensions that shape and support care practices. Public spaces and community hubs often fail to adequately accommodate informal care activities due to issues such as poor accessibility, safety concerns, and inadequate design.</p> <p>This study addresses these gaps by exploring the interplay between spatial configurations and care networks, aiming to understand how architecture and urban design can strengthen informal care practices to foster inclusivity, well-being, and social cohesion in urban environments.</p>
<p>research questions and</p>	<p>The following key research questions are explored:</p> <ol style="list-style-type: none"> 1. How can spatial mapping of existing care networks reveal the strengths and weaknesses of care nodes within urban neighborhoods? This question focuses on identifying the distribution and functionality of care networks, uncovering gaps and barriers through qualitative and spatial analyses. 2. What role do architectural characteristics play in shaping care network nodes in urban neighborhoods? This question investigates how

	<p>design features, such as visibility, accessibility, and spatial configurations, influence the effectiveness and inclusivity of care nodes.</p>
<p>design assignment in which these result.</p>	<p>The design assignment centers on the creation of a multifunctional urban square in Tarwewijk, Rotterdam, with a focus on fostering care, inclusivity, and social interaction. This square will host a multifunctional community center, along with two residential buildings offering apartments tailored to one- to two-person households. Together, these elements aim to strengthen the neighborhood's care networks and enhance the quality of public space. The key components of the project include:</p> <ul style="list-style-type: none"> • A communal urban square: Designed as a multifunctional public space, the square will serve as a meeting point and gathering place for residents of all ages, encouraging informal interactions and fostering a sense of community. • A multifunctional community center: This building will feature: <ul style="list-style-type: none"> ◦ A communal kitchen that facilitates shared cooking activities and food distribution, promoting care through food-related practices. ◦ A communal dining area, offering space for shared meals, social gatherings, and community events. ◦ Integration of the existing playground association, maintaining its recreational role while enhancing its capacity as a hub for community members.

	<ul style="list-style-type: none"> • Two residential buildings: These apartments will cater to small households (1-2 people), with designs that emphasize accessibility, comfort, and opportunities for social engagement with the surrounding square and community center.
Process	
Method description	
<p>This research employs a mixed-methods approach, combining qualitative and spatial analyses. The methodology is grounded in a human-centered perspective, ensuring that the lived experiences and needs of Tarwewijk residents are central to the analysis. The methods used include:</p> <ol style="list-style-type: none"> 1. Semi-structured Interviews Semi-structured interviews were conducted with 24 residents of Tarwewijk to gain insights into their experiences, perceptions of care, and the spaces where informal and formal care practices occur. Key questions addressed topics such as feelings of comfort, places of social interaction, and instances of providing or receiving help. This approach allowed for capturing diverse narratives and uncovering patterns of care practices and spatial dynamics in the neighborhood. 2. Participant Observation Observations were carried out at key care nodes, including a cooking initiative, a creative community gathering space, and a mosque functioning as a community hub. This method provided direct insights into how these spaces are used, the social interactions they facilitate, and the architectural features that support or hinder care practices. 3. Fieldnotes and Visual Documentation During fieldwork, detailed notes, sketches, and photographs were collected to document the spatial and social characteristics of care nodes. This qualitative data provided a rich understanding of how spaces are experienced and navigated by residents. 4. Spatial Mapping A spatial analysis of care nodes was conducted using tools such as DepthmapX and GIS to visualize the distribution, accessibility, and connectivity of care networks in Tarwewijk. This analysis highlighted gaps and barriers in the existing infrastructure and informed design interventions to address spatial inequalities. 5. Theoretical Framework Integration The research is informed by theories of care ethics, the production of space, and architectural affordances. These frameworks guided the analysis and ensured that findings were grounded in a robust theoretical context. 	

6. Design Iteration and Testing

Preliminary design concepts were developed and refined based on research findings. Design guidelines were iteratively tested to ensure they addressed the identified needs and spatial challenges, while aligning with the project's goal of fostering inclusive and supportive care networks.

Literature and general practical references

Care Ethics:

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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)?

My graduation topic, which focuses on the interplay between care networks and urban design, aligns closely with the theme of the Dwelling Graduation Studio: Designing for Care in an Inclusive Environment. The studio's emphasis on creating inclusive, care-oriented environments provides a strong framework for investigating how spatial design can support and enhance both formal and informal care practices.

Within the broader Master of Science in Architecture, Urbanism, and Building Sciences program, my project bridges architecture, urbanism, and care ethics. It integrates human-centered research and spatial analysis to propose architectural and urban interventions that promote social cohesion and inclusivity. Additionally, the interdisciplinary nature of the studio resonates with my interest in connecting architecture with social sciences, psychology, and public health.

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

Socially, this project addresses pressing challenges in urban neighborhoods like Tarwewijk, such as social fragmentation, lack of accessible care spaces, and inequality in community resources. By focusing on care networks and their spatial dimensions, the project contributes to creating environments that support mutual aid and well-being, which are particularly critical in socio-economically diverse areas.

Professionally, the research explores how architects and urban designers can go beyond conventional practices to engage with care ethics as a driving force for inclusive design. The project advocates for the integration of community needs and social dynamics into design processes, encouraging a more empathetic and participatory approach to urban development.

Scientifically, the research advances the understanding of how spatial configurations influence care practices. It combines theoretical frameworks, with practical tools like spatial mapping and participatory observation. This

methodological integration provides valuable insights for future studies on the relationship between the built environment and social systems of care.