

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	Maria Napieralska
Student number	5928877

Studio		
Name / Theme	AR3AP100 2024-25 Public Building Graduation Studio "Public Condenser, Copenhagen"	
Main mentor	Paul Kuitenbrouwer	Project Design
Second mentor	Elina Karanastasi	Technical Building Design
Third mentor	Stefano Corbo	Theory and Delineation
Argumentation of choice of the studio	The studio offers a balance of creative freedom within structured constraints, which provides a stimulating intellectual and design environment. It allows exploration of what a public building can become, facing contemporary challenges. Additionally, personal interest in Nordic architecture and familiarity with city of Copenhagen were important factors while choosing the studio.	

Graduation project	
Title of the graduation project	Architectural care: a public building design oriented towards mental wellbeing
Goal	
Location:	Nordvest, Copenhagen, Denmark
The posed problem,	<p>The shift from the Nordic Welfare State Model to a more competitive, neo-liberal approach, introduced a new balance between the state, market and society in Denmark. Despite the original intention of providing equal access to amenities and services, the increasing focus on urban competitiveness results in growing division between those who can afford it, and those who cannot. In a city that competes about specific types of investments and people, the myth of a city of equality is challenged, which may be one of the results of raising mental health issues. The rising number of psychiatric hospital admissions in the Capital Region and the overall increase in low mental health scores among Danish citizens are some of the indicators of this problem. At the same time, a 2007 Structural Reform of Danish hospitals wants to prioritize quality of care over geographical proximity to hospitals. The new way of financing healthcare was also supposed to encourage municipalities to invest in preventive health measures. This indicates the need to search for new methods of preventive societal care.</p> <p>The area of Nordvest, where the project site is located, is characterised by several factors that negatively influence mental</p>

	<p>wellbeing. According to <i>Policy for disadvantaged areas of Copenhagen</i>, the population of Bispebjerg is characterised by, among others, lower education levels and lower income than the average of Copenhagen. Additionally, Nordvest suffers from persistent stigmatisation, particularly against its diverse population of immigrants and descendants of non-Western ethnic backgrounds. As ethnicity is a direct determinant for an area to be considered a ghetto by the Parallel Societies Act, it makes residents more vulnerable to ostracism and strengthens the division in the society.</p> <p>Together, the transition from the welfare state towards the <i>wealthy</i> state, socioeconomic challenges and discrimination heighten the risk of mental wellbeing issues among Nordvest residents. Therefore, it is necessary to address those challenges and reduce the stigma in the neighbourhood. As the authorities use urban policies and laws to force out the <i>undesired</i> (read non-Western) social groups, architecture has the capability of creating the contrary – inclusive public building that celebrates diversity, improves access to amenities and creates equal chances for self-development. Incorporating current findings about the connection between architecture and mental state can introduce a new chapter for the design of community centres focused on wellbeing.</p>
<p>research questions and</p>	<p>Main question:</p> <p>How the architecture of a public building can support the mental wellbeing of its users?</p> <p>Subquestions:</p> <p>What are the current findings connecting architecture to mental wellbeing?</p> <p>How the program and the design of the building can support mental wellbeing?</p>
<p>design assignment in which these result.</p>	<p>This research proposes an innovative architectural approach to address mental wellbeing challenges in Copenhagen's Nordvest district. The design strategy aims to create a pilot public building that serves as a preventive healthcare solution, aligning with Danish healthcare authorities' current focus on community-based care. To create a condenser, the design starts with public space activation that impacts not only the building's users, but every passer-by to create a healthier and safer environment. On the inside, the project intends to create a variety of spaces that can be connected, divided, or transformed to respond to the changing needs of the programme. At the same time, it will leave open areas that can be adapted by the visitors themselves, to promote inclusivity and offer a new social hub for the neighbourhood.</p> <p>The project will incorporate architectural elements, such as materials, lights, colours, shapes and sizes of spaces, that positively stimulate</p>

	<p>human psychology and physiology while minimizing negative environmental impacts. These elements will enhance the building's ability to promote concentration, creativity, and relaxation. By providing inviting spaces for self-development in various fields, the design will serve diverse population of Nordvest, accommodating multiple age groups, abilities, and lifestyles.</p> <p>The civic mixing will be implemented as an integration strategy to address social prejudices. This approach will create opportunities for positive interactions between different social groups, potentially reducing stigmatization and improving overall community mental wellbeing.</p> <p>In the same way that architects consider biodiversity and carbon footprint, future designers should prioritize the mental wellbeing of building users as a fundamental strategy for design thinking. This project will serve as a prototype for this concept, offering an opportunity to test and refine the idea of architecture oriented towards mental wellbeing.</p>
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Process

Method description

As the project revolves around mental wellbeing, the literature review provided a general overview of the concept, its determinants and risk factors. To connect this notion with architectural practice, further study was conducted to assess how built environment affects human psychology, physiology and behaviour. This part of the investigation widely relied on the concept of neuroarchitecture – a multidisciplinary field that measures the influence of architecture on human bodily responses. A summary of current findings in this field was prepared, and further translated into proposed guidelines for creating buildings using neuroarchitectural discoveries in the design.

Furthermore, case studies of multi-purpose buildings intended for vulnerable groups, such as cancer patients or migrant neighbourhoods were analysed. This study allowed reviewing, of what sort of solutions architects implement to provide a safe and soothing atmosphere. In the next step, they were evaluated by comparing them with the neuroarchitectural solutions concluded in the previous part. Additionally, similar patterns were recognised to understand the prevailing ideas behind the buildings intended for care. Those typologies include, but are not limited to, aspects such as the building's relation to the surroundings and the entryways.

To investigate better the matter of the size of the spaces and providing adequate facilities, this research also explored a realised project of a pavilion dedicated to the students' mental wellbeing, a social living room Exhale on the TU Delft Campus. By interviewing the project leader, Ailisha Shannon, insight was gained into the process of reasoning, design, implementation and evaluation of the project. This part helped to define a strategy to create spaces dedicated to mental wellbeing.

Context analysis was conducted to define the building program and the suitable site for the design assumptions. Tests on the site were created in the form of drawings, digital and physical models, to find a form that responds to the urban context, and provides both inviting areas and spaces for integration, as well as more intimated parts. The created model can be further developed and validated through practical application and research, and potentially revolutionize how we approach architectural design with mental wellbeing at its core.

Literature and general practical references

As the project is an attempt to create a public building with mental wellbeing as its core concept, the literature will support the investigation of connecting the mental wellbeing with built environment through neuroarchitecture and integration strategies.

The notion of mental wellbeing is relatively new, and due to the subjectivity of the concept, there is not a universal definition that would suit everyone's experience. Gautam et al. (2024) explain the difference between mental wellbeing from mental health as non-medical, related to active participation in different areas of life, pleasant relationships, feeling of purpose and overall contentment in life. Those definitions are further represented by Gallagher et al. (2009) into a hierarchical structure, dividing the aspects of wellbeing into happiness and life satisfaction (hedonic wellbeing), societal contribution (social wellbeing) and self-realisation (eudaimonic wellbeing).

The origin of neuroarchitecture is explored by Sternerg (2009), starting with the introduction of Alvar Aalto and Richard Neutra's concepts of health benefits that architecture can bring into the healing process. Furthermore, she describes the foundation of the Academy of Neuroscience for Architecture, their findings and workshops that were a result of a multidisciplinary work between architects, neuroscientists and psychologists. To combine the findings in this field, Medhat et al. (2023) provide a systematic review that is used as a base for understanding the bodily responses towards the build environment.

To understand the local context, Raahauge et al.(2022) explain the evolution of Danish welfare spaces in connection to changing policies. Simpson (2024) in his lecture provides an overview of state schemes and urban outcomes, with a summary of current challenges including polarised society, housing shortage, gentrification and environmental concerns in present-day Copenhagen. Additionally, Lundsteen (2023) describes how The Parallel Societies Act contributes to the racial neoliberal urbanism strategy, which tries to force out residents unfitting certain criteria and therefore contradicting the vision of equality in society.

As the project aims at creating inclusive spaces for integration, it will consult The Public Life Diversity Toolkit, as well as projects realised by Gehl studio. Additionally, it will explore Maggie's Centers, which are designed by various architectural practices, such as Foster and Partners or Heatherwick Studio.

Bibliography

Gallagher, Matthew W., Shane J. Lopez, and Kristopher J. Preacher. 'The Hierarchical Structure of Well-Being'. *Journal of Personality* 77, no. 4 (August 2009): 1025–50. <https://doi.org/10.1111/j.1467-6494.2009.00573.x>.

Gautam, Shiv, Akhilesh Jain, Jigneshchandra Chaudhary, Manaswi Gautam, Manisha Gaur, and Sandeep Grover. 'Concept of Mental Health and Mental Well-Being, It's Determinants and Coping Strategies'. *Indian Journal of Psychiatry* 66, no. Suppl 2 (January 2024): S231–44. https://doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_707_23.

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Raahauge, Kirsten Marie, Deane Simpson, Martin Sjøberg, and Katrine Lotz, eds. *Architectures of Dismantling and Restructuring: Spaces of Danish Welfare, 1970–Present*. Zürich: Lars Müller Publishers GmbH, 2022.

Risom, Jeff, Blaine Merker, Anna Müessig, Eric Scharnhorst, Celsa Dockstader, Tyler Jones, and Elaine Laguerta. 'The Public Life Diversity Toolkit 2.0'. Gehl Institute. Accessed 4 January 2025. https://issuu.com/gehlinstitute/docs/20160128_toolkit_2.0.

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Sternberg, Esther M. *Healing Spaces: The Science of Place and Well-Being*. Cambridge, Mass: Belknap Press of Harvard University Press, 2009.

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)?

More and more people live in the cities, which brings challenges to urban planners and architects to create sustainable, healthy and thriving urban settings. The studio topic of "public condenser" refers to this issue, allowing the exploration of densification that facilitates different needs and users. The graduation topic complements that study, by investigating the ways of social integration and mental wellbeing in urban context. Additionally, it explores how the specialization of architecture can benefit from multidisciplinary cooperation with professionals from the fields of neuroscience and psychology.

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

By creating a public space dedicated to mental wellbeing, the project responds to the challenges of growing urban populations. It searches for solutions for designing socially responsible spaces that improve life quality. That idea also aligns with Denmark's national healthcare strategies, shifting towards preventative care and community-based solutions.

This project proposes an innovative approach, that bridges the disciplines of neuroscience and architecture, encouraging a multidisciplinary cooperation that can benefit urban development. It contributes to the growing field of evidence-based design, offering an opportunity to test and refine the idea of architecture oriented towards mental wellbeing.