

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	YuHyun Oh
Student number	5921813

Studio		
Name / Theme	Advanced Housing Design	
Main mentor	Olv Klijn	Design Mentor
Second mentor	Alejandro Campos / Brook Haileselassie	Research Mentor
Argumentation of choice of the studio	I chose the Advanced Housing Design studio because of its critical approach to contemporary housing challenges—one of the key concerns of contemporary Dutch society. As I am not from the Netherlands myself, exploring this region is both incredibly interesting and stimulating. I believe the proximity of the site also allows me to delve into a more in-depth study for the duration of my thesis project. I also wished to balance my Master's education with residential design after multiple semesters of public building design and adapted reuse design. Residential design always allows us to look at architecture at the human scale on a more personal level.	

Graduation project	
Title of the graduation project	Home to Fork: facing the false sense of food security
Goal	
Location:	Midden-Delfland, Netherlands
The posed problem,	[summary of problem statement] The Netherlands faces a hidden crisis of food insecurity rooted in unsustainable consumption and production practices. Midden-Delfland, with its picturesque pastures, exemplifies the environmental toll of industrial agriculture, including nitrogen pollution, biodiversity loss, and strained ecosystems. The 2019 nitrogen crisis exposed the fragility of this

	<p>system, halting construction projects and deepening the housing crisis, while public protests underscored the complexity of transitioning away from livestock-centric agriculture. Addressing these issues requires rethinking food autonomy, reducing reliance on industrial-scale agriculture, and empowering grassroots change through sustainable, localized practices. Architecture can play a pivotal role in this transformation by integrating food production, preparation, and consumption into dwellings, fostering daily habits that provide residents with an alternative to the global food system and promote regenerative practices. As a global leader of agricultural technology and innovation, the Netherlands has the potential to export more than meat—the export of a new way of living.</p>
research questions and	<p>What strategies can effectively integrate food production and preparation within residential communities to develop a sustainable food system?</p>
design assignment in which these result.	<p>The design assignment will consist of a community design in the Duifpolder of Midden-Delfland that provides housing for 100 households. The residents must be able to engage in various methods of food cultivation, processing, and consumption of varying levels of complexity and expertise.</p>
<p>[This should be formulated in such a way that the graduation project can answer these questions. The definition of the problem has to be significant to a clearly defined area of research and design.]</p>	
<p>Process</p>	
<p>Method description Preliminary research to be conducted using data analysis, scientific journals, and literature review of topics related to nutrition science, social science, and environmental science. Secondary research will touch upon the theoretical frameworks of nutritional anthropology, regenerative food system, and sustainable development using documentaries and further literature reviews. The tertiary research will aim to connect previous research to the built environment with research</p>	

into building technologies. A data-driven approach will be applied to key design decisions of the masterplan and architecture.

Literature and general practical references

Book

Leenaers, H., Donkers, H., & Noordhoff Atlasproducties. (2015). *Food Atlas of the Netherlands*. Noordhoff Uitgevers

Phillips, A. (2013). *Designing Urban Agriculture: A Complete Guide to the Planning, Design, Construction, Maintenance and Management of Edible Landscapes*. Wiley.

Martin-McAuliffe, S. L. (Ed.). (2016). *Food and Architecture: At The Table*. Bloomsbury Academic.

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Verhoeven, S. (2018). *Flourishing foodscapes: Design for City-Region Food Systems*.

Publication

De Jong, M., Van Hal, O., Pijlman, J., Van Eekeren, N., & Junginger, M. (2021). Paludiculture as paludifuture on Dutch peatlands: An environmental and economic analysis of Typha cultivation and insulation production. *The Science Of The Total Environment*, 792, 148161. <https://doi.org/10.1016/j.scitotenv.2021.148161>

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TNO. (2019, Oct). FACTSHEET EMISSIES EN DEPOSITIE VAN STIKSTOF IN NEDERLAND. TNO. <https://publications.tno.nl/publication/34634850/8Pywsn/TNO-2019-emissies.pdf>

van Rossum, C. T., Sanderman-Nawijn, E. L., Brants, H. A., Dinnissen, C. S., Jansen-van der Vliet, M., Beukers, M. S., & Ocké, M. C. (2023). The diet of the Dutch. Results of the Dutch National Food Consumption Survey 2019-2021 on food consumption and evaluation with dietary guidelines. RIVM. <https://www.rivm.nl/publicaties/diet-of-dutch-results-of-dutch-national-food-consumption-survey-2019-2021-on-food>

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Demographic statistics Province of SOUTH HOLLAND. (n.d.). <https://ugeo.urbistat.com/AdminStat/en/nl/demografia/dati-sintesi/zuid-holland/28/3>

eurostat. (2023, January). *Agri-environmental indicator - livestock patterns - Statistics Explained*. European Commission. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_livestock_patterns

Hortileads. (2019, December 11). *Albert Heijn test plasticvrije groenten en fruit*. Vakblad Onder Glas. <https://www.onderglas.nl/albert-heijn-test-plasticvrije-groenten-en-fruit>

Motivaction. (2024). *Mentality*. Motivaction. Retrieved January 6, 2025, from <https://www.motivaction.nl/en/mentality>

Netherlands, S. (2024b, April 17). *Homeworkers live fifteen minutes further away from work*. Statistics Netherlands. <https://www.cbs.nl/en-gb/news/2024/16/homeworkers-live-fifteen-minutes-further-away-from-work>

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Documentary / Video Media

DW Documentary. (2022, October 25). *Food security - A growing dilemma | DW Documentary* [Video]. YouTube. <https://www.youtube.com/watch?v=wu7PjKawjwI>

Eco No-Mads. (2024, August 1). *Man grows ALL of his food on 750m2* [Video]. YouTube. <https://www.youtube.com/watch?v=TNR8JfHah00>

Follow the food. (n.d.). <https://www.bbc.com/future/bespoke/follow-the-food/>

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Wageningen University & Research. (2020, June 4). *Re-rooting the Dutch food system – from more to better* [Video]. YouTube. https://www.youtube.com/watch?v=pJdQl_fYcaE

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 thesis explores the hidden crisis of food insecurity in the Netherlands and globally, driven by unsustainable consumption and production practices. The Advanced Housing Design studio critically examines housing through the lenses of affordability, accessibility, feminism, and environmental sustainability. This perspective has shaped my thesis by encouraging me to address environmental concerns and social equity as interconnected issues. Food security and the challenges of the global food system are inherently both environmental and social: environmental due to the strain it places on ecosystems, and social because it leaves communities with limited control over this food system. My project does not seek to ask whether architecture can **solve** the environmental crisis caused by industrial agriculture but rather how it can **empower** people to adopt sustainable alternatives. This aligns with the goals of the Architecture track at TU Delft, where design is used as a tool to address societal challenges. The MSc Architecture, Urbanism, and Building Sciences programme has honestly been crucial in refining my research methodology. My prior work on the history thesis gave me a strong appreciation for thorough research, which I now apply to designing more thoughtful, evidence-based solutions informed by the expertise of professionals from diverse fields beyond architecture.

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

My graduation project tackles food insecurity by exploring how architecture can foster regenerative food systems and empower communities to grow their own food. I provide compelling reasons why this issue is so urgent. Beyond just providing solutions for Midden-Delfland, I highlight the broader need to rethink how we design for diverse populations with varying needs and tendencies. Instead of assuming an ideal community, my work acknowledges the complexity of human behavior, aiming to create spaces that naturally adapt to a wide range of lifestyles. This approach brings value by integrating layers of agriculture—organized by proximity, expertise, and maintenance requirements—into

residential design, offering a practical framework for an alternative food system. Scientifically, my project compiles knowledge from fields like nutritional anthropology and regenerative food systems to demonstrate how architectural design can address intertwined environmental and social challenges. While I don't claim to add entirely new insights, my work reframes these issues in a way that urges architects to consider food systems as integral to design across all environments, rural and urban alike. I believe the question of food needs to be integrated into all sorts of architectural projects, regardless of scale or location.