

# Draft 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](mailto: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	<b>Jelte Savonije</b>
Student number	4996879

Studio		
Name / Theme	Dwelling: Designing for care in an inclusive environment	
Main mentor	Birgit Jurgenhake	architect, PhD, assistant professor at TU
Second mentor	Annemarie Eijkelenboom	Assistant professor, architectural engineering and technology, indoor environment
Third mentor	Birgitte Hansen	Teacher architectural research
Argumentation of choice of the studio	I'm interested in designing houses and the societal influence of this studio. By designing for care this studio focusses on minority groups. The design outputs feels like it has influence and matters.	

Graduation project	
Title of the graduation project	Designing alternative living for people with dementia to decrease the caregivers' burden and letting people stay at their own place longer
Goal	
Location:	Tarwewijk Rotterdam
The posed problem,	This graduation project focusses on people with dementia and their informal caregivers. In the next 25 years the amount of people with dementia will double. Informal caregivers of people with dementia experience stress and burdens. Different studies have shown that informal caregivers of people with dementia are likely to suffer from different types of health issues such as depression, anxiety, and physical illnesses (Etters et al, 2008; Fonareva & Oken, 2014).

Etters, L., Goodall, D., & Harrison, B. E. (2008). Caregiver burden among dementia patient caregivers: A review of the literature. *Journal Of The American Academy Of Nurse Practitioners*, 20(8), 423–428.

<https://doi.org/10.1111/j.1745-7599.2008.00342.x>

Fonareva, I., & Oken, B. S. (2014). Physiological and functional consequences of caregiving for relatives with

In the next twenty years, there will be an increasing pressure on the Dutch health system. The amount of informal care that is required cannot be fulfilled by the current informal caregivers. In 2018, per one care receiver of 75 and above living at home five informal caregivers were able to provide care. This is suspected to decrease to three informal caregivers per one care receiver in 2040 (Sociaal en Cultureel Planbureau, 2019). Next to the decrease of the potential of informal caregivers, there will be a larger shortage of formal caregivers (NU.nl, 2023). The decrease in informal caregivers and the shortage of formal caregivers means the caregivers' burden will be worse.

There are two problems with the present housing situation for people with dementia and their caregivers. The first problem is about caregivers staying at home with their care receiver in unsuitable houses, experiencing heavy burden. The second issue is about care receivers not willing to move to care homes and the caregiver's burden that stays even when their care receiver is hospitalized. There is a need for alternative housing that decreases the caregivers' burden and makes it possible for caregivers and care receivers stay at their own place even when formal care is needed. Alternative means that it is different from the present houses people with dementia and their informal

	<p>caregivers live in and different from the traditional care homes.</p>
<p>research questions and</p>	<p>Research question:</p> <p>How can alternative living decrease the dementia caregivers' burden and make residents stay at their own place?</p> <p>Sub-questions:</p> <ul style="list-style-type: none"> <li>- What are the different types and stages of dementia and how does this effect living on your own?</li> <li>- How to design for people with dementia?</li> <li>- What can be learned from already existing alternative ways of living for people with dementia?</li> <li>- How can an architectural design help reduce the informal caregivers' burden?</li> </ul>
<p>design assignment in which these result.</p>	<p>I want to create a location where people can stay as long as possible. Providing different typologies, independent houses, group-homes and 24h-care homes, with different availability of care which makes it able for people to move within the complex when someone's care need changes. This concept will also be beneficial for the informal caregivers. Loneliness and burdens will decrease when people live next to people who are in the same situation. People can have more free time when</p>

there will be a neighbour, professionals and organized daytime activities on site which can look after your partner.

## **Process**

### **Method description**

First key-question:

dementia through literature study of Edwards et al. (2024) and Górska et al. (2016). Analysing the different stages of dementia will provide a broader view on the disease. It is also important to get in touch with informal caregivers of people with dementia. During interviews, I will research how their daily routines of living at home get disrupted by an increasing care need of their dementia family member.

Second key-question:

The second key-question will be answered by analysing the books mentioned at chapter 1.2 Theoretical Framework. I will add to this with information coming from the fieldwork week. During my fieldwork I will stay for several days at the Reigershoeve in Heemskerk. The Reigershoeve is a care farm for people with dementia. I will do observations and map residents of which I will make architectural translations. This way, the sub-question will be answered from both an architectural as an user viewpoint.

Third key-question:

The third key-question is focusing on alternative ways of living for people with dementia in the Netherlands as outside the Netherlands. I will investigate concepts such as co-housing and small-scale living. This is mainly based on the literature review by Speckemeier et al. (2023).

The idea of alternative living is also about designing new floorplans which allow a longer and burden decreasing stay at people their homes. I will investigate the current floorplans to explain why residents need to move. Therefore, I will be looking into current typologies of the Polslanstraat and the Roggestraat in the Tarwewijk.

Fourth key-question:

For the final key-question I will be doing interviews with informal caregivers. This can either be people who live with and care for their relatives. Or people who lived with their relatives but decided it was not doable anymore. This will be combined with the first sub question on how dementia effects living at home. The interviews will help understand the caregivers' burden and give insights in how architecture can decrease this burden. This sub question is strongly connected with the previous sub question

because of the architectural analysing method. Mapping floorplans of houses of people with dementia and their caregivers live in will be useful for coming to a conclusion.

### **Literature and general practical references**

Edwards et al. researched on the impact of early-stage dementia on daily life activities gives language to what people experience when living with dementia (2024). Edwards is a researcher in the field of psychiatry, psychology and neuroscience. Through a qualitative interview study, the research explores the effect of dementia from both the perspective of occupational therapists and people with dementia and their supporters. The combination of therapists from the professional field and people experiencing dementia first-hand provides attention to both individual and collective needs. Its focus on the early stages of dementia is vital for understanding how the disease progresses and what different care needs may rise. In addition, Górska et al. focuses of the experience of living through a metasynthesis study (2016). The author has a background in occupational therapy, psychology and doctoral research into the dementia experience.

To go from the individual experience of people with dementia to appropriate housing, the book *Lost in space* combines architecture and dementia in both design and planning (Feddersen & Lüdtke, 2014). Both authors have architectural backgrounds. Feddersen is a German architect and journalist on the field of housing for elderly and Lüdtke is an architectural journalist on housing and health care. Since dementia also affects spatial orientation, mindful architectural design can mitigate these effects. Through an analysis of various projects, Feddersen and Lüdtke provide a guide for designing for dementia.

The book *Dementia-friendly Hospital Buildings* is even more specific in its guidelines since it focuses exclusively on hospital buildings (Buter & Marquardt, 2020). Buter's work focusses on designing architecture for people living with dementia. Marquardt is an architect and earned several academic awards for her dissertation on dementia-friendly architecture. The book adds to the field of architecture because what is written on dementia and designing is mostly about care homes. While Buter and Marquardt focus on hospitals specifically, their ideas about colour, contrasts, and daylight can also be implemented in residential spaces.

To extend further on residential spaces, Speckemeier focuses what positive effects different housing types have on people with dementia. This research also gives

space for alternative ways of living for people with dementia beyond the traditional care home. Speckemeier is a researcher in healthcare management, which is not directly related to the field of architecture, but the outcomes can determine whether we should or should not build more alternative ways of living for people with dementia. This study will be used to explore the benefits and the drawbacks of the different housing typologies for people with dementia. While Buter and Marquardt focus on specific design choices, Speckemeier investigates housing types. Both the specifics and the housing types are essential for designing dementia-friendly housing. Through this framework, the lack of voices of carers in architectural design becomes clear. While carers are often heard in studies about psychological wellbeing and the general dementia experience, their voices are missing within the architectural field. This is a severe lack, because of their burden, but also because they deserve suitable and joyful spaces.

Buter, K. M., & Marquardt, G. (2020). *Dementia-friendly hospital buildings: Construction and Design Manual*.

Edwards, B. M., Busse, M., Clouston, T. J., & Hannigan, B. (2024). Exploring the impact of early-stage dementia on everyday activities. *British Journal Of Occupational Therapy*.

<https://doi.org/10.1177/03080226241261178>

Feddersen, E., & Lüdtke, I. (2014). *Lost in space: Architecture and Dementia*. Birkhauser Architecture.

Górska, S., Forsyth, K., & Maciver, D. (2016). Living With Dementia: A Meta-synthesis of Qualitative Research on the Lived Experience. *The Gerontologist*, gnw195. <https://doi.org/10.1093/geront/gnw195>

Speckemeier, C., Niemann, A., Weitzel, M., Abels, C., Höfer, K., Walendzik, A., Wasem, J., & Neusser, S. (2023). Assessment of innovative living and care arrangements for persons with dementia: a systematic review. *BMC Geriatrics*, 23(1). <https://doi.org/10.1186/s12877-023-04187-4>

## 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)?

The graduation topic alternative ways of living for people with dementia is a direct result of one of the Dutch problems in the world of health and care. And therefore, strongly connected with the studio topic. The design assignment is meant as a solution to for this problem.

Alternative housing for people with dementia is strongly connected with the master track Architecture. The outcome of this project is a complex that houses people. Which is one of the fundamentals of architecture.

Different disciplines of the master programme will be used within the graduation topic. The outcome of this research is a project that is useful for residents of the Tarwewijk. With analysis done on different urban scales the project gets

connected to the Tarwewijk. In addition, landscape architecture will be used to provide a green structure for the neighbourhood.

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

The graduation work is relevant because it adds to the theoretical framework by looking at dementia housing from a different starting point / perspective. As designing for dementia is not something new, this research is different because of its focus on informal caregivers. It investigates the possibilities for people with dementia and their informal caregivers to stay at home longer and seeks solutions to decrease the dementia caregivers' burden.