

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	Maarten Abe Nijenhuis
Student number	4497082

Studio		
Name / Theme	MSc3 Complex Studios	
Main mentor	Henri van Bennekom	A
Second mentor	Hubert van der Meel	BT
Third mentor	Marija Mateljan	A
Argumentation of choice of the studio	To me, design should start from a feeling of necessity. I design by trying to find a logic but unknowingly put pieces of information together. This makes explaining a design intent sometimes harder than it needs to be. That is why I seek to learn from the Complex Projects studio and learn to develop a clear narrative. The studio's freedom of thought expressed in futuristic designs, is driven by factual information and that to me makes it very exciting.	

Graduation project	
Title of the graduation project	The migration of well-being
Goal	
Location:	Rotterdam, district Feijenoord
The posed problem,	Increasingly, the importance of well-being and sustainable urban development is addressed in the Feijenpoort area by Rotterdam's urban ambitions. How to design for higher levels of well-being has been attributed to ideas to promote physical health, ranging from experiences of comfort to stimulating physical activity. However, by acknowledging that well-being is defined as a system of interconnected dimensions of physical, mental and social well-being it can be investigated how architecture might improve the poor conditions of a challenged urban district in Rotterdam by a design and increase residents' happiness.
research questions and	How can well-being-oriented spaces let city residents flourish in a context of sustainable city development?

design assignment in which these result.

[Design Assignment]

Project ambition

The ambition is to build a new green, sustainable art academy as the breeding ground for creativity and skill development of Feijenpoort and Rotterdam. Widely 50 percent of Rotterdam's 650.000 inhabitants are immigrants with growing different cultural interests, while over a third of the population is younger than 25 years.

The main users are identified as youngsters from a migrant background with low quality of life due to socio-economic disadvantages who wish to educate themselves traditionally but also in combination with the arts. This is achieved through participating in traditional arts but mostly in increasingly popular forms of modern art such as urban and street art. This is due to the large presence of these art forms in the region of Feijenpoort and Rotterdam South.

User groups

The academy will cater to the age categories of 2 to 25 years and invite participation in activities by the elderly also to increase mental and physical well-being.

The capacity should be accustomed to the 175 toddlers on hold for daycare at this moment (Staat van het onderwijs Rotterdam, 2017), 500 children attending primary school, 250 being the minimum for new primary schools in Rotterdam (onderwijs huisvesting Rotterdam, 2019) , and an additional 500 for MBO, HBO and Masters level. The day to day usage will have to count on a total of 1200 students.

The goal is to attract a minimum of 100.000 visitors / year. An estimated 25.000 people of the specified age groups of the local population, an additional 75.000 people of Rotterdam and art lovers from the Netherlands will visit organized activities in the building's performance spaces every year. It must also be able to absorb a share of the yearly 4.4 million cultural visitors in Rotterdam.

Site location

The urban ambition is to diversify Rotterdam's cultural program and to recognize the existence of cross-over art disciplines such as urban and street art and place it properly in the city's cultural scene. That is why publicly accessible performance and open education programs will manifest on the Westvarkenoordsepark, connecting and activating the green belt of Rotterdam region. The Academy building will be placed at the Varkenoordse Park, making use of and adding to the attractive qualities of the green environment.

Program (social) ambition

The building hosts a mix of programs. It combines daily art education programs and afterschool's art activities for children in a daycare program, while other spaces are open to youngsters and the community. It also opens up to the community and interested public in the evenings for art events and performances. These combinations collectively raise the well-being of the neighbourhood inhabitants and those of the city.

Building ambition

The building responds to its historic low residential and future Feyenoord City context by becoming a low landmark but lifted from the park, opening up undisturbed visual relations in the park. To mediate between the low and high-rise context the building makes use of the Rotterdamse Laag definition and will reach a maximum height of 25 meters to attract investors.

The materials must appeal and respond to Rotterdam's circular ambitions. Preliminary suggestions are to incorporate light, recyclable urban materials such as brick, wood, steel, aluminium and polycarbonate.

Process
Method description
<i>Historical, phenomenological, correlational</i>

Literature and general practical preference

For this research literature was consulted from various sources of which the core to to extract quantitative data from consisted of: statistics from the Dutch Centraal Bureau voor de Statistiek, reports from the municipality of Rotterdam, World Health Organization, the United Nations and Gallup Healthway well-being index.

Qualitative data on well-being, health, education, sustainable development goals and biophilia was extracted from similar and different sources, ranging from scientific papers to books and articles.

Books and research articles

Boehnert, J. (2018). *Design, ecology, politics: Towards the ecocene*. Bloomsbury Publishing.

Naci, H., & Ioannidis, J. P. (2015). Evaluation of wellness determinants and interventions by citizen scientists. *Jama*, 314(2), 121-122.

De Neve, J.-E., & Sachs, J. D. (2020). The SDGs and human well-being: a global analysis of synergies, trade-offs, and regional differences. *Scientific Reports*, 10(1), 1–12. <https://doi.org/10.1038/s41598-020-71916-9>

Heathcote, E. (2018, 28 september). The architecture of health: how buildings are designed for wellbeing. *Financial Times*.

Murphy, C. C. (2018). The spatial impact of migration. *The Journal of Public Space*, 3(3), 159-170, DOI 10.32891/jps.v3i3.1139

Heathcote, E. (2018, September 28). The architecture of health: how buildings are designed for wellbeing. *Financial Times*. <https://www.ft.com/content/0249c3be-bce0-11e8-8dfd-2f1cbc7ee27c>

Snel E., van Ostaijen M., 't Hart M. (2019) Rotterdam as a Case of Complexity Reduction: Migration from Central and Eastern European Countries. In: Scholten P., Crul M., van de Laar P. (eds) *Coming to Terms with Superdiversity*. IMISCOE Research Series. Springer, Cham. https://doi-org.tudelft.idm.oclc.org/10.1007/978-3-319-96041-8_8
Holst, J. (2013). Rethinking Dwelling and Building. On Martin Heidegger's conception of Being as Dwelling and Jørn Utzon's Architecture of Well-being. *ZARCH: Journal of interdisciplinary studies in Architecture and Urbanism*, (2), 52-60.

Dzhambov, A. M., Markevych, I., Hartig, T., Tilov, B., Arabadzhiev, Z., Stoyanov, D., ... & Dimitrova, D. D. (2018). Multiple pathways link urban green-and bluespace to mental health in young adults. *Environmental research*, 166, 223-233

Huppert, F. A., & So, T. T. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social indicators research*, 110(3), 837-861.

Krefis, A. C., Augustin, M., Schlünzen, K. H., Oßenbrügge, J., & Augustin, J. (2018). How does the urban environment affect health and well-being? A systematic review. *Urban Science*, 2(1), 21.

McEachan, R. R., Yang, T. C., Roberts, H., Pickett, K. E., Arseneau-Powell, D., Gidlow, C. J., ... & Nieuwenhuijsen, M. (2018). Availability, use of, and satisfaction with green space, and children's mental wellbeing at age 4 years in a multicultural, deprived, urban area: results from the born in Bradford cohort study. *The Lancet Planetary Health*, 2(6), e244-e254.

Mossin, N., Stilling, S., Bøjstrup, T., & Larsen, V. G. (2018). *An architecture guide to the UN 17 Sustainable Development Goals*. KADK

Clark, H., Coll-Seck, A. M., Banerjee, A., Peterson, S., Dalgligh, S. L., Ameratunga, S., ... & Claeson, M. (2020). A future for the world's children? A WHO–UNICEF–Lancet Commission. *The Lancet*, 395(10224), 605-658.

Lai, C., & DeGolyer, M. E. (2016). *Asian urban-wellbeing indicators comparative report: Hong Kong, Singapore, Shanghai*. Civic Exchange, June.

Sarvimäki, A. (2006). Well-being as being well - a Heideggerian look at well-being. *International Journal of Qualitative Studies on Health and Well-Being*, 1(1), 1–20. <https://doi.org/10.3402/qhw.v1i1.4903>

Caan, S. (2011). *Rethinking design and interiors: Human beings in the built environment*. London: Laurence King,

Hongwei Xu, Yu Xie, The Causal Effects of Rural-to-Urban Migration on Children's Well-being in China, *European Sociological Review*, Volume 31, Issue 4, August 2015, Pages 502–519, <https://doi.org/10.1093/esr/jcv009>

Ong, B. L. (Ed.). (2013). *Beyond environmental comfort*. Routledge.

Ouweneel, P., Burger, M., & Veenhoven, R. (2018). Happiness in Rotterdam: Analysis of 7 city surveys. *International Advances in Economic Research*, 6(2), 82-100.

The Flourish Model to enhance wellbeing. (2019, August 1). <https://www.bsria.com/uk/news/article/the-flourish-model-to-enhance-wellbeing/>

Architecture for well-being and health, Steemers, K., (2017, February 15). The Daylight Site | Daylighting Research, Architecture, Practice and Education. <http://thedaylightsite.com/architecture-for-well-being-and-health-2/>

Programmabureau Nationaal Programma Rotterdam Zuid. (2019, January). *Uitvoeringsplan 2019-2022 Nationaal Programma Rotterdam Zuid*. <https://www.rotterdam.nl/nieuws/het-gaat-beter-op-zuid/NPRZ-uitvoeringsprogramma-2019-2022>

Onderzoek en samenstelling Gemeente Rotterdam, Stadsontwikkeling en Onderzoek en Business Intelligence. (2019, February). *Economische Verkenning Rotterdam 2019*. Veenman. https://evr010.nl/wp-content/uploads/2019/03/EVR2019_magazine.pdf

Onderzoek en samenstelling Gemeente Rotterdam, Stadsontwikkeling en Onderzoek en Business Intelligence. (2019, February). Economische Verkenning Rotterdam 2019. Veenman. https://evr010.nl/wp-content/uploads/2019/03/EVR2019_magazine.pdf

Kellert, S. R., & Wilson, E. O. (Eds.). (1993). The biophilia hypothesis. Island Press

Ryan, C. O., Browning, W. D., Clancy, J. O., Andrews, S. L., & Kallianpurkar, N. B. (2014). Biophilic design patterns: emerging nature-based parameters for health and well-being in the built environment. ArchNet-IJAR: International Journal of Architectural Research, 8(2), 62
mental well-being

Bautista, J. (2017, 10 maart). New Research Shows How Arts and Culture Improve Health, safety and Well-being. School of Social Policy & Practice.

Gemeente Rotterdam. (2020, november). Gezondheid in kaart, tabellenboek Feijenoord. <https://www.gezondheidinkaat.nl>

Al, S., Sari, R. M., & Kahya, N. C. (2012). A different perspective on education: Montessori and Montessori school architecture. Procedia-Social and Behavioral Sciences, 46, 1866-1871

Websites

<https://eu-dashboards.sdgindex.org/countries/netherlands>, last consulted on 26-09-2020

<https://www.buildinggreen.com/feature/equity-design-and-construction-seven-case-studies>, last consulted on 28-09-2020

<https://globalwellnessinstitute.org/initiatives/wellness-architecture-initiative/wellness-architecture-resources/>

<https://mythicalroutes.com/history/epidaurus>

<https://www.klasse.be/122856/hoer-straatcultuur-op-school-verdween/>

<https://www.archdaily.com/945204/why-its-not-quite-time-to-give-up-city-living>

<https://www.fosterandpartners.com/projects/bloomberg/#/>

https://dl1.cuni.cz/pluginfile.php/909158/mod_resource/content/1/Smith_Sustainability%2C%20Wellbeing%20and%20Posthuman%20Turn.pdf

<https://www.watdoetdegemeente.rotterdam.nl/omissie2019/programmas/onderwijs/onderwijshuisvesting/index.xml>

Interactive Dashboard: Europe Sustainable Development Report 2020. (2021). <https://eu-dashboards.sdgindex.org/profiles/netherlands>

Reflection

Ask any architects and it is what they try to design for: buildings and/or cities for the well-being of humans. However, it appears to be very difficult for architects to explain what that means as it is an intimately subjective perception of the architecture. Intuitively a person knows and so it is worth investigating if the architect should be able to know this for everyone around the world.

The influence of the architect is demonstrated in our built environment. But, during the BSc Bouwkunde and MSc Architecture track at the TU Delft well-being was hardly addressed explicitly and therefore I was motivated to research this further through the graduation trajectory of Complex Projects. The studio's approach to relate data and scientific research to complex urban architectural topics are, to me, key in understanding trends to design better futures. By relating global influences to each other, this year's studio theme positively addresses global changes and how these ideas could migrate to benefit our ideas on design. Therefore it is my objective to relate global ideas also to the universal idea of well-being and try to design for it