

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

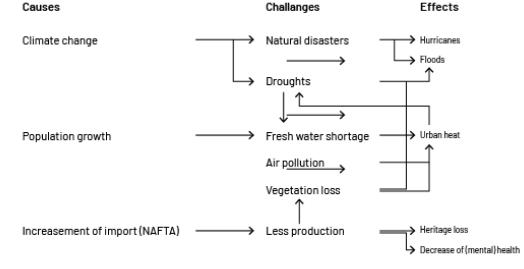
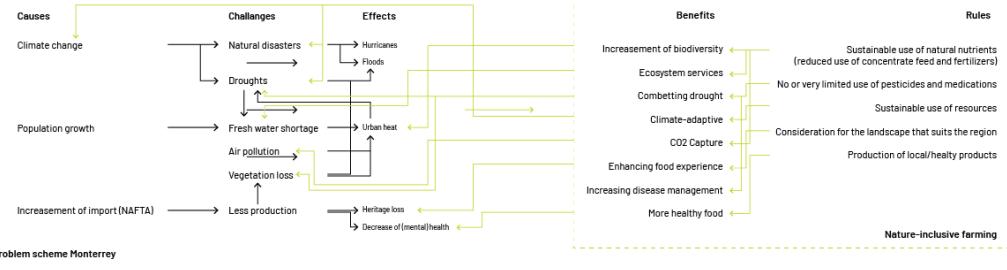
Submit your Graduation Plan to the Board of Examiners (Examenscommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

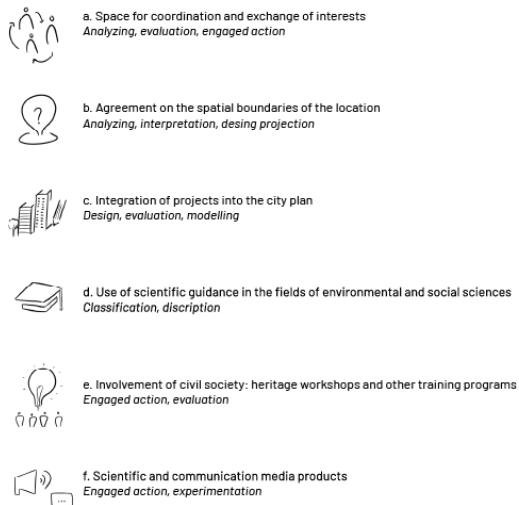
The graduation plan consists of at least the following data/segments:

Personal information	
Name	Kim Handelé
Student number	4696654

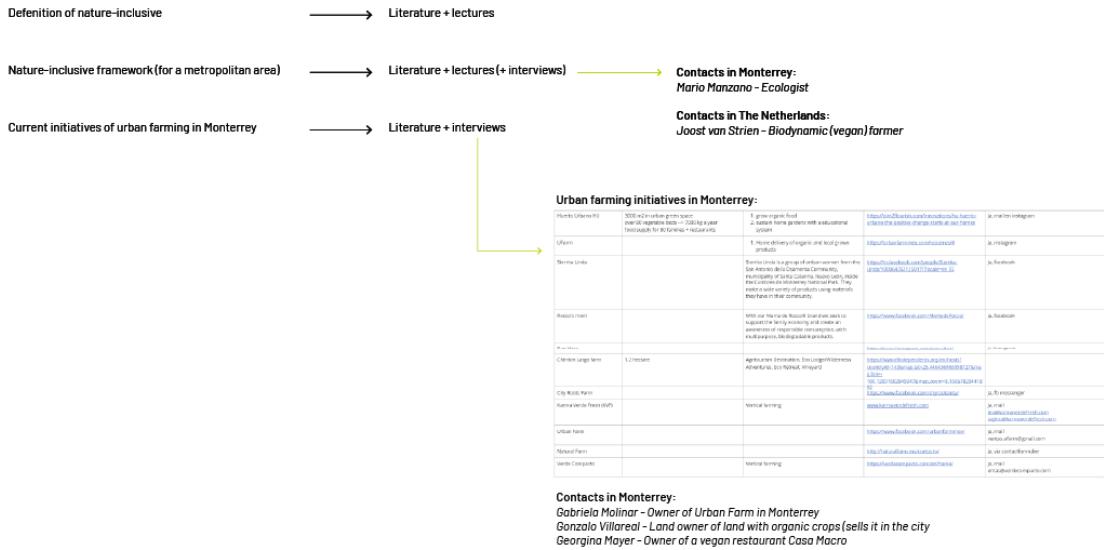
Studio		
Name / Theme		Landscape Architecture - Urban Ecology
Main mentor	Nico Tillie	City, Transition, Carbon, Ecology, Quality of life, Inner city, Urban landscape, Planning, Accounting, Agricultural area
Second mentor	Ulf Hackauf	Architect, urbanist and researcher with a special interest in the relation between food production and cities.
Argumentation of choice of the studio	A sustainable approach to agriculture has personally resonated with me, following extensive practical experience. Topics such as biodiversity, ecosystems, and soil play pivotal roles in this regard. I find that I can effectively integrate this interest within the Urban Ecology lab. Through this program, I can delve deeper into the intricacies of urban ecosystem dynamics and, hopefully, foster a closer connection between humans and nature.	

Graduation project	
Title of the graduation project	Cultivated connections – Enhancing the quality of life in Monterrey, Mexico by implementing urban agriculture practices.
Goal	
Location:	Monterrey, Mexico
The posed problem,	<p>In Monterrey, Mexico, the intricate relationship between the food industry and the realm of national and international health politics has resulted in a disheartening loss of the city's rich food heritage. This, in turn, has taken a significant toll on the physical and mental health of its residents. The problem is exacerbated by the growing specter of climate change, which has gradually widened the chasm between the agricultural sector and society.</p> <p>The adverse effects of these changes are starkly evident in the declining agricultural productivity of the region. As yields wane, a ripple effect is</p>

	<p>unleashed, creating severe socio-ecological consequences that impact not only the environment but also the very fabric of Monterrey's social structure. The city is at a critical juncture, facing the urgent need for innovative solutions to restore the once vibrant connections between health, agriculture and nature.</p>  <p>Problem scheme Monterrey</p> <pre> graph LR CC[Climate change] --> ND[Natural disasters] CC --> D[Droughts] PG[Population growth] --> FWS[Fresh water shortage] PG --> AP[Air pollution] PG --> VL[Vegetation loss] IINA[Increase of import (NAFTA)] --> LP[Less production] ND --> H[Hurricanes] ND --> F[Floods] D --> FWS FWS --> UH[Urban heat] AP --> UH VL --> UH UH --> HL[Heritage loss] HL --> DMH[Decrease of (mental) health] UH --> DMH FWS --> UH UH --> HL HL --> DMH </pre>																		
research questions and	<p>This graduation research focuses on how urban nature-inclusive agriculture can address the previously mentioned issues.</p>  <p>Problem scheme Monterrey</p> <pre> graph LR CC[Climate change] --> ND[Natural disasters] CC --> D[Droughts] PG[Population growth] --> FWS[Fresh water shortage] PG --> AP[Air pollution] PG --> VL[Vegetation loss] IINA[Increase of import (NAFTA)] --> LP[Less production] ND --> H[Hurricanes] ND --> F[Floods] D --> FWS FWS --> UH[Urban heat] AP --> UH VL --> UH UH --> HL[Heritage loss] HL --> DMH[Decrease of (mental) health] UH --> DMH FWS --> UH UH --> HL HL --> DMH </pre> <p>Nature-inclusive farming</p> <table border="1"> <thead> <tr> <th>Benefits</th> <th>Rules</th> </tr> </thead> <tbody> <tr> <td>Increase of biodiversity</td> <td>Sustainable use of natural nutrients (reduced use of concentrate feed and fertilizers)</td> </tr> <tr> <td>Ecosystem services</td> <td>No or very limited use of pesticides and medications</td> </tr> <tr> <td>Combating drought</td> <td>Sustainable use of resources</td> </tr> <tr> <td>Climate-adaptive</td> <td>Consideration for the landscape that suits the region</td> </tr> <tr> <td>CO2 Capture</td> <td>Production of local/healty products</td> </tr> <tr> <td>Enhancing food experience</td> <td></td> </tr> <tr> <td>Increasing disease management</td> <td></td> </tr> <tr> <td>More healthy food</td> <td></td> </tr> </tbody> </table>	Benefits	Rules	Increase of biodiversity	Sustainable use of natural nutrients (reduced use of concentrate feed and fertilizers)	Ecosystem services	No or very limited use of pesticides and medications	Combating drought	Sustainable use of resources	Climate-adaptive	Consideration for the landscape that suits the region	CO2 Capture	Production of local/healty products	Enhancing food experience		Increasing disease management		More healthy food	
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design assignment in which these result.	<p>More sustainable land use that provides adequate nutrition for the Monterrey's population in an integrated model on a regional and neighborhood scale.</p>																		
Process	Method description																		



Needed data SR01:



Needed data SR02:



Literature and general practical references

Broto, V. C., & Bulkeley, H. (2013). Maintaining climate change experiments: urban political ecology and the everyday reconfiguration of urban infrastructure. *International Journal of Urban and Regional Research*, 37(6), 1934–1948. <https://doi.org/10.1111/1468-2427.12050>

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Villalón, J. A. A. (2009). *Lista de Plantas y Principios para su uso en ornato en el estado de Nuevo León*. In Aprobada por el Consejo Estatal Forestal.

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 project, which focuses on addressing the loss of food heritage and its impact on health and agriculture in Monterrey, Mexico, can be seen as a landscape architecture project with a strong emphasis on creating sustainable and integrated models for land use and nutrition. As a landscape architect, I have the expertise to design and

plan outdoor spaces that promote healthy living and sustainable practices. The studio topic, Urban Ecology, focuses on understanding and improving the relationships between urban environments and the natural world, which often includes topics related to sustainability, biodiversity, and the integration of nature into cities. These topics are the base line of my design approach.

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

The graduation work has the potential to make a meaningful impact in addressing critical issues related to public health, cultural heritage, and sustainability in Monterrey. It also showcases my skills and knowledge as a landscape architecture student, and it contributes to scientific understanding and practical solutions for complex urban challenges.