Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences
## Graduation Plan: All tracks

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

### Personal information

<table>
<thead>
<tr>
<th>Name</th>
<th>Daphne van Dooren</th>
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</thead>
<tbody>
<tr>
<td>Student number</td>
<td>1502549 (wordt gebruikt voor koppeling met student file)</td>
</tr>
<tr>
<td>Telephone number</td>
<td>06-37479379</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:daphnevandooren@gmail.com">daphnevandooren@gmail.com</a></td>
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</tbody>
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### Studio

<table>
<thead>
<tr>
<th>Name / Theme</th>
<th>Urban Metabolism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>Alex Wandl, Frank van der Hoeven (alleen die waarmee student werkt)</td>
</tr>
<tr>
<td>Argumentation of choice of the studio</td>
<td>The project addresses the flow of heat, from both a technical and social perspective.</td>
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### Graduation project

<table>
<thead>
<tr>
<th>Title of the graduation project</th>
<th>Warming up for the cooling down: Towards an integrated urban design with adaptation strategies to the Urban Heat Island effect</th>
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### Goal

<table>
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<tr>
<th>Location</th>
<th>Bospolder-Tussendijken and Cool in Rotterdam, the Netherlands.</th>
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<tr>
<td>The posed problem,</td>
<td>There is a lack of knowledge on how adaptation strategies to the UHI effect can be implemented in urban design, without changing the other focuses for the design.</td>
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| research questions and design assignment in which these result. | Main question: How can adaptation strategies to the Urban Heat Island effect be integrated in urban design, and in an exemplary neighbourhood in Rotterdam?  
Sub questions:  
- What is the Urban Heat Island effect, and what are the causes and consequences of it in general and for Rotterdam?  
- What are the possible adaptation strategies to the Urban Heat Island effect, and how effective are they?  
- How can adaptation strategies be integrated in urban design in general, and in the case of Rotterdam?  
Integration of adaptation strategies to the Urban Heat Island effect into urban design in general, and two neighbourhoods in Rotterdam. |

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.

**Process**

**Method description**
- Literature review by research questions
- Case comparison: quantitative/qualitative impact
- Pattern language from effective adaptation measures
- Vulnerability/spatial/social analysis for integrated design
- Design of urban elements from patterns

**Literature and general practical preference**
- Literature: Ahmed Memon, Van Hove, Klok, Oke, Taha
- Patterns: Alexander
- Graduation projects: Lugten, Van Lohuizen
- Data: project Hotterdam
- Cases: Scheldekaaien/Theater square (Antwerp), Olympic Park/Jubilee Gardens (London), Orestad/Nordhavn (Copenhagen)

**Reflection**

**Relevance**
Studies demonstrate that heat causes problems, and that the Urban Heat Island effect exists in the Netherlands. Urban designers are able to enhance the liveability of the urban environment during hot periods, and reduce risks related to climate change.

**Time planning**
Before P1: literature review, preliminary thesis plan
> P2: literature review, case comparison, select location, thesis plan
> P3: pattern language, location analysis, design
> P4: design, reflect on patterns, thesis
> P5: thesis, presentation