Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences
Graduation Plan: All tracks
The graduation plan consists of at least the following data/segments:

<table>
<thead>
<tr>
<th>Personal information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Student number</td>
</tr>
<tr>
<td>Telephone number</td>
</tr>
<tr>
<td>E-mail address</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Studio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name / Theme</td>
</tr>
<tr>
<td>Teachers</td>
</tr>
<tr>
<td>Argumentation of choice of the studio</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduation project</th>
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</thead>
<tbody>
<tr>
<td>Title of the graduation project</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Goal</th>
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<tbody>
<tr>
<td>Location:</td>
</tr>
<tr>
<td>The posed problem,</td>
</tr>
<tr>
<td>research questions and design assignment in which these result.</td>
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</tbody>
</table>
A "salt community" is created in which the inhabitants work in the greenhouses needed to grow the crops: a fully self-sustaining system. Of this community several typologies will be developed: the greenhouse itself, the factory in which the salt buildings are made, the greenhouses and living units for the inhabitants. A masterplan will also be created with several scenarios on how to develop this salt city.

**Process**

**Method description**

The research is split up in three different parts. The first part concerns process engineering. How do we make this salt infrastructure, how do we grow crops in the desert, with what flows do we have to deal with? This will be researched via a case study of the Sahara Forest Project and the Seawater Greenhouse, along with interviews with experts at both the TU Delft and Wageningen University. The next two steps are about material and architecture. After separating salt water into fresh water and salt, how do we make a material based on salt with which we can make architecture? Thus the second part of the research is about finding a production method with which a strong salt-based material can be made. This will be done via a combination of literature study and a series of DIY experiments.

The final step is to test the now newly created salt-based material. A range of experiments will be conducted to test the material on its tensile and compressive strength and density to formulate a strategy on how to design and build with this salt material.

**Literature and general practical preference**

**Precedents:**
- Sahara Forest Project
- Seawater Greenhouse by Charlie Paton
- Saltygloo (3D printed salt pavilion) by Emerging Objects

**Literature:**

**Reflection**

**Relevance**

The relevance in this project is in mapping the ‘flows’ surrounding the creation of architecture, e.g. examining the full material cycles, the energy needs and transport routes and minimizing the impact on nature. It is an attempt in creating a bio-material that can be completely produced on site with
local materials – something that could potentially have significant impact.

**Time planning**

See next page.
### Planning

#### Road to P1

<table>
<thead>
<tr>
<th>Week</th>
<th>40</th>
<th>41</th>
<th>42</th>
<th>43</th>
<th>44</th>
<th>45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Literature study</td>
<td>Literature study</td>
<td>AE Café preparation</td>
<td>Case study</td>
<td>Finish case study</td>
<td>P1 Presentation</td>
</tr>
<tr>
<td>Goal/Product</td>
<td>3D print research</td>
<td>Start Material study</td>
<td>Case study booklet</td>
<td></td>
<td></td>
<td>Choose direction for material, design, research</td>
</tr>
</tbody>
</table>

#### Road to P2

<table>
<thead>
<tr>
<th>Week</th>
<th>46</th>
<th>47</th>
<th>48</th>
<th>49</th>
<th>50</th>
<th>51</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Research material options</td>
<td>Prepare interviews</td>
<td>Material study</td>
<td>Complete scheme</td>
<td>Start on preliminary design</td>
<td>Work on preliminary design</td>
<td>Prepare for P2 presentation</td>
<td>P2 Presentation</td>
<td></td>
<td>Reflection</td>
</tr>
<tr>
<td>Goal/Product</td>
<td>Set up interviews</td>
<td>Literature study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hand in Research Methods paper</td>
<td>Presentation drawings</td>
<td></td>
<td>Assess next steps, adjust plan</td>
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</table>

#### Road to P3

<table>
<thead>
<tr>
<th>Week</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Vacation</td>
<td>Climate study current typologies</td>
<td>Contact SFP people</td>
<td>Develop typologies</td>
<td>Develop typologies</td>
<td>Re-assess masterplan</td>
<td>Develop scenarios including typologies</td>
<td>Develop typologies, set scenes in MP</td>
<td>Develop typologies including masterplan</td>
<td>P3 preparation</td>
</tr>
<tr>
<td>Goal/Product</td>
<td>Location analysis</td>
<td>Schemes &amp; relations</td>
<td>Salt City 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Salt City 3.0</td>
<td>Set scenes, develop typologies to 3.0-4.0</td>
</tr>
</tbody>
</table>
### Road to P4

<table>
<thead>
<tr>
<th>Week</th>
<th>Action</th>
<th>Goal/Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Reflection</td>
<td>Assess final steps to P4</td>
</tr>
<tr>
<td>16</td>
<td>Continue development typologies</td>
<td>Typologies 4.0</td>
</tr>
<tr>
<td>17</td>
<td>Continue development typologies</td>
<td>Salt city 4.0</td>
</tr>
<tr>
<td>18</td>
<td>Develop integration typologies with each other &amp; masterplan</td>
<td>Typologies 5.0</td>
</tr>
<tr>
<td>19</td>
<td>Finalise masterplan, seek outside assistance</td>
<td>Hand in Research Methods paper</td>
</tr>
<tr>
<td>20</td>
<td>Set final scenes, develop what to present</td>
<td>Final design steps, reach salt city 5.0, typologies 5.0-6.0, develop furniture, tiling, etc.</td>
</tr>
<tr>
<td>21</td>
<td>Develop presentation</td>
<td></td>
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<tr>
<td>22</td>
<td></td>
<td>P4 Presentation</td>
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<tr>
<td>23</td>
<td>Reflection</td>
<td>Assess work remaining</td>
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### Road to P5

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<tr>
<th>Week</th>
<th>Action</th>
<th>Goal/Product</th>
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<tbody>
<tr>
<td>24</td>
<td>Send models to 3D printer</td>
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<tr>
<td>25</td>
<td>Build model, Make renderings, Develop presentation</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Build model, Make renderings, Develop presentation</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>P5 Presentation</td>
<td></td>
</tr>
</tbody>
</table>