

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



<b>Personal information</b>	
Name	<b>Djamo Mastenbroek</b>
Student number	4534638

<b>Studio</b>		
Name / Theme	AR3UA100 Urban Architecture Graduation Studio – Black Hill City	
Main mentor	Paul Vermeulen	Architecture
Second mentor	Rosie van der Schans	Architecture
Third mentor	Eireen Schreurs	Research
Fourth mentor	Lex van Deudekom	Building Technology
Argumentation of choice of the studio	<p>The Graduation studio of Urban Architecture encourages to investigate and work with complex urban environments on a multitude of scales. The studio offers flexibility within both the research and design and provides the liberty to bring personal fascinations into the studio. This year's topic 'Black Hill City' explores the post-industrial city and its difficulties. Because of the site-specific research the studio challenges us as architecture students to be very precise within our design. Both my fascination for industrial architecture and its materials and how to work with the existing were my reasons to choose this year's studio.</p>	

<b>Graduation project</b>	
Title of the graduation project	<b>Reclaiming the cities material culture and craftsmanship</b>
<b>Goal</b>	
Location:	Rue de Porto 140, Bressoux
The posed problem,	<p>Liege is a city known for its productive city landscape. However, with the closure of the coal mines in 1980 and the closure of ArcelorMittal, the world's biggest steel company, in 2013 the city is now facing post-industrial decay and a high unemployment rate. Also challenges like contamination, aging buildings and infrastructures, scattered landownership, and uncertainties in costs hamper the redevelopment of the city. The cities' identity, the industrial city, is slowly becoming a mere memory. Traces of its identity, the craftsmanship and the cities material cultures are present in mere decaying industrial</p>

	<p>buildings and small workplaces that are scattered through the neighbourhoods of Droixhe and Bressoux. Instead of working with the existing and relating to the neighbourhood's architecture the city is gentrifying the neighbourhoods through the implementation of architecture that segregates from the cities' identity. The question arises of how the identity of the city and thus its craftsmanship and material culture can be preserved while revitalizing the city.</p>
<p>research questions and</p>	<p>How can the cities' material culture and knowledge on craftsmanship be preserved in the post-industrial city?</p> <ul style="list-style-type: none"> <li>- How can knowledge on craftsmanship empower the social structure in Bressoux and Droixhe?</li> <li>- How can material culture be preserved through reclaiming and reusing local materials?</li> <li>- What role does an educational function serve in the development of Bressoux and Droixhe?</li> </ul> <p>What materials could be gleaned from existing vacant industrial buildings within the neighbourhood and be reused for construction on a nearby site?</p> <ul style="list-style-type: none"> <li>- What processes are demanded to reuse reclaimed materials and components in a new building?</li> <li>- How can the reuse of materials play a role in the reconstruction of the post-industrial city?</li> </ul>
<p>design assignment in which these result.</p>	<p>The problem statement asks for a design that preserves knowledge on craftsmanship and material culture. Therefore, the aim is to propose a small campus where the knowledge on craftsmanship is taught and a circular economy facility that can be used by both the craft school and the neighbourhood. The proposed craft school should give the possibility to preserve existing knowledge, create new</p>

	<p>knowledge, empower the residents, and create employment possibilities. The adjoining circular economy facility provides the craft school with reusable materials while also functioning as a public facility where a circular economy is stimulated.</p>
<p><b>Process</b></p>	
<p><b>Method description</b></p>	
<p>1. Material catalogue  For the research I will collaborate with Thijs Reitsma on creating a material catalogue. This catalogue will be limited to buildings of similar size and building typology, ensuring a relevant range of materials. The inventory and evaluation of sources and materials will mainly be done by archival research, field research followed by a test model that will provide insight on how to compose reclaimed materials.</p> <p>2. Reclaim and reuse methods  To understand what possibilities, lay within the scope of reclaiming and reusing materials the next step will be to investigate different processes and methods needed to reclaim and reuse materials. To obtain this information Thijs and I will visit companies that are invested in such activities, such as New Horizon (NL), Rotor DC (BE) and Lagemaat BV (NL). The process of reclaiming and reusing materials will further be investigated through consulting literature. These processes will support the material catalogue through providing knowledge on how to deal with these materials. Analytical drawings and photos will be used to compress this information.</p> <p>3. Design methods  Finally, research on how to design with reclaimed resources will be done. This research will be conducted by consulting literature and interviewing architectural firms that are involved in the activity of designing with reclaimed resources. Furthermore, an investigation of strategies regarding the design of a craft school will be done. Case studies, literature and analytical drawings will be conducted to execute this research. Finally, an investigation of strategies regarding design for disassembly will be conducted through literary research and design practice.</p>	

## Literature and general practical preference

Visits to/interviews with:

- Rotor DC, Brussels, BE
- New Horizon, Geertruidenberg, NL
- Lagemaat BV, Heerde, NL
- Other relevant companies and creatives enterprises invested in reusing and upcycling reclaimed resources.
- 
- Addis B. (2006). *Building with Reclaimed Components and Materials: A Design Handbook for Reuse and Recycling*. MPG Books Limited.
- Blok, M. (2021). *Urban mining and circular construction - what, why and how It works*. Retrieved from <https://www.metabolic.nl/news/urban-mining-and-circular-construction/>
- Edelkoort, L., Fimmano, P. (2020). *A Labour of Love*. Lecturis.
- Pietsch, S., Schreurs, E., Mandias, S. & Broekhuizen, D. (2018). *The New Craft School*. Japsam Books.
- Stockhammer, D. (2020). *Upcycling. Reuse as a Design Principle in Architecture*. Triest Verslag.
- Wong, L. (2016). *Adaptive Reuse: Extending the Lives of Buildings*. Birkhauser.
- Zukin, S. (2011). *Naked City: The Death and Life of Authentic Urban Places*. Oxford University Press Inc.
- 

## 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 topic of my graduation project relates to the studio topic of the Black Hill City as my approach involves the preservation of the industrial heritage of the post-industrial city. Further, the proposal deals with a sensitive urban context and should not be a bold statement within the city, something that I have been trying to achieve throughout my Masters.

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

The results of my graduation project will demonstrate the benefit and necessity of creating a school where both knowledge and material culture is being preserved in the post-industrial city. Especially in a city where the unemployment rates are high and the average education levels are low a craft school and its architecture should be accessible. Moreover, the project will explore the possibilities of a circular economy within the neighbourhood, something that is relevant with the circular economy goals within the construction sector.

