

Study guide 2021-2022 MARB/MAIB24
International master in architecture - fase1 – sem2
Campus Brussels Engagement: Craftsmanship

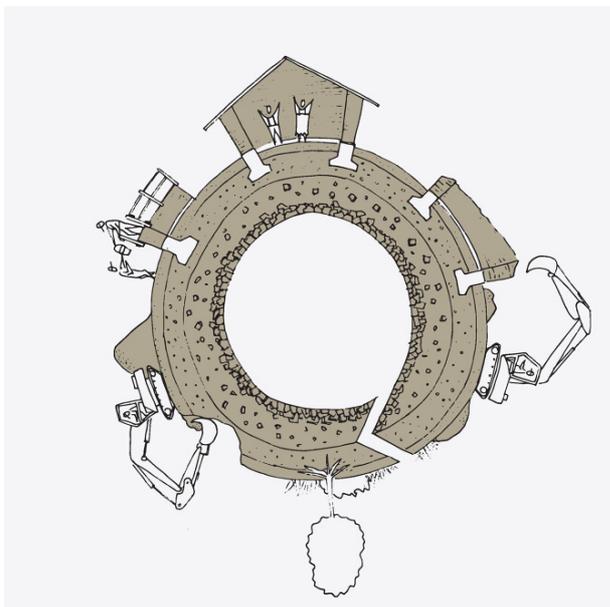
MARB/MAIB24 design studio ‘On circular materials and processes – PART 2’

Semester	2
Start week	Assemblea February 17 Studio on Wednesday starting February 23
Reviews	Permanent evaluation, final review on June 3
Credits	15
Studio tutors	Laurens Bekemans, Catherine Mengé

This studio MARB / MAIB14 together with the subsequent studio MARB / MAIB24 is based on the objectives set within the ADO (Academic design office) project ‘Designing for an uncertain future/the act of building’ (see website: <https://adocircular.org>)

ACADEMIC YEAR 2020-2021: EARTH and NATURAL STONE

A. CONTEXT



Climate mitigation requires a new attitude to materials and innovation in ecological and environmental engineering. Architects must research building materials and design the process of construction as much as its architectural outcome.

The earth is a closed system, and our stay here is only temporary. That’s why we need to behave responsibly and consciously deal with everything that makes our stay possible on this planet. However, we have created a system that focuses on continuous, exponential growth, which means that products have to be produced in a more and more increasing amount. That is why many people already argue to organize our economy in a fundamentally different way: where it is no longer about 'take, make and waste' but about a circular economy where we re-use products, where waste becomes a ‘new’ raw material, where locally (bio)sourced materials are mainstream and where design is thought for the long-term.

Circular economy is necessary and promising. Due to the energy, materials and climate transition, our environmental laws will soon become stricter. Long transport chains will push up the price of products. Residuals and waste will need to become the resources for tomorrow’s economy. This offers opportunities for shorter and closed production chains. These circular chains are most promising in places where many people live: in and around the city¹.

Within this context the pre-industrialized concept of a master-builder might just come back. It reflects the idea of an integral approach to architecture, embedded in local context, local materials and local craftsmanship. The professional architect should become more hybrid again. He should understand the flows and larger network that is touched by his design. He should research and understand design as the result of materials and processes.

¹ Inspired by the text From A Good City Has Industry booklet for the exposition in Bozar in the winter of 2017

B. STUDIO APPROACH



The studio is partly organized at the campus Brussels and partly off-site at the workshop space in the construction hall of BC Materials (Havenlaan104 1000 Brussel) and at the Asiat site in Vilvoorde (Willem Elsschotstraat 18 at 1800 Vilvoorde). This combined on/off-site studio makes it possible to develop a dynamic and hands-on studio.

The Brussels campus will be used for design discussions/meetings, etc. whereas all material research, prototyping, modelling, workshops, etc. would take place in the workshop space at BC materials and the festival ground of Horst. This gives the possibility to the students to test materials, understand construction on scale 1:1, prototype details on scale 1:1, build walls, build details, etc.

The final goal of the studio (the end of the 2nd semester) is to build a structure which enables us to organize a final event on the final critic. The structure will be chosen by the students from their personal work of the first half of the 2nd semester and will be constructed by all the students together during the second half of the second semester

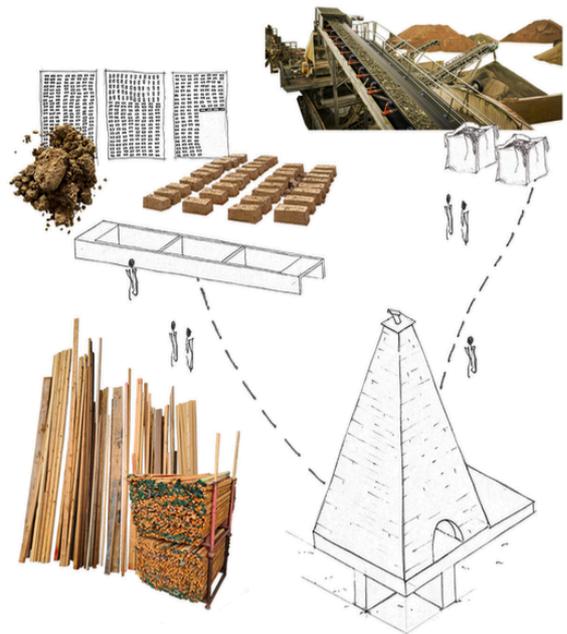
C. DESIGN APPROACH

The first half of the semester will focus on designing a structure for the Arts and Music Festival of Horst. Together with this, research will be done on the circular use of building resources and the technical aspects of the construction of an oven with raw earth and natural stone. The immediate vicinity of the oven with seating elements, table, possibly a canopy, etc ... will be also the subject of the design. Students will have to develop a design until executional level.

In addition, the students are invited to design an 'action plan', with a program for the second half of the semester, so that the project will be ready to be used at the final review.

We see the construction process as a potent lever for social engagement, material research and climate adaptation. We often define the construction process through the notion of “the act of building” - a complex effort of a given community to generate infrastructure, encompassing all classes and skill sets, materials and technologies, with the power of change through action, story and result.

Hopefully, through this studio, a new practice can develop which shows meaningful alternatives in the production, construction and use of human resources and infrastructure.



D. AIM

The student is challenged to understand in a more holistic way the meaning of Architecture as a profession in the world in transition. The student will develop affinities with earth, construction waste and local natural stone as a local resource. He/she will be trained in new production processes, construction techniques, materiality, structure, ecological building principles and executional drawings. These explorations will bring students closer to materials and their constructive features and bridge the existing gap between architectural education and the craftsmanship of architecture.

E. STUDIO ASSIGNMENT

1. The design:

Students will develop a project on the grounds of the "Horst Arts and Music Festival" that enables a range of activities and applications. The design story is sensitively **related to the specific context** (industrial, old military site, festival, making labs, social meetings, pop-up activities, art, music, ...) and **circular thinking is essential**. The design includes a meeting place where visitors can rest, eat, cook... An important element is the design of **an oven in natural unfired building materials**. Some resources can be found locally at the Asiat site such as earth and wood. The **development of a new circular building material** is an important part of the design. To research the properties of the new material, prototypes will be made and tested.

One of the designs will be chosen by the entire design studio and built at the Asiat site in the second half of the semester.



2. The process:

Designing the construction process is an important part of the design. A strict plan of actions and timing will be drawn up, considering the specificity of the design and the self-developed building material. The entire studio is involved in this. Teams will be formed, each with a specific task and timing.

3. The construction:



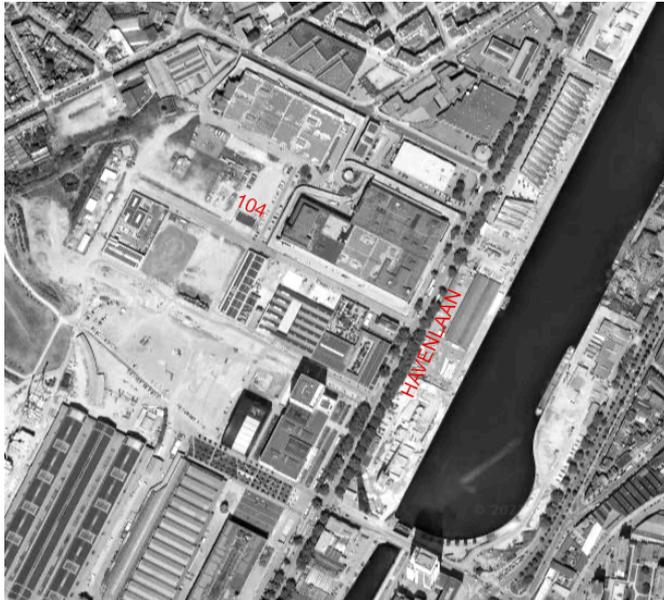
Construction will start after the Easter holidays and the project will be ready for use during the final review.

The project will be built with the self-designed new circular building material. In this way the design could possibly become a source of materials for future constructions.

F. OFF-SCHOOL SITES

1. BC materials, Havenlaan 104 at 1000 Brussel

BC materials opens during the studio hours parts of their workshop to the students. The students will be able to use tools, test materials, ... under the supervision of BC materials.



2. Asiat site: location of the Arts- and Music Festival of Horst, Willem Elsschotstraat 18 at 1800 Vilvoorde



G. ORGANIZATION OF THE STUDIO

The studio will alternate between the campus Brussels, the BC production hall and the Asiat site. Working method design studio: groupwork

Parts of the studio: The design - The process - The construction

H. METHOD OF EVALUATION

See ects

https://onderwijsaanbod.kuleuven.be/2020/syllabi/v/e/A43075E.htm#activetab=doelstellingen_idm17739328

https://onderwijsaanbod.kuleuven.be/syllabi/e/A41314E.htm#activetab=doelstellingen_idm193648&bl=all

Permanent evaluation and reviews

Evaluations are a combination of permanent Design-Studio assessments of students' performance during group- and individual work and close follow-up on development of group-work as well as individual projects. One or more reviews are organized followed by a final and conclusive evaluation on the 1,2 or 3 June, requiring students to present their work concisely along pre-set common guidelines and minimum output along the entire development of their design project.

Part of the permanent evaluation criteria, students must attend at least 80% of this course's designated 'contact-hours' and engage actively during all sessions. Students found to be regularly absent, or who fail to contribute to the group project and / or to develop their individual project and/or skirt team-based output may be declined participation to the final review.

For the final evaluation, partner institution professors may be invited. Reviews can be presented using various formats such as power-point presentations, desk-crit sessions, exhibitions, peer-reviews, digital delivery, presentation on paper format, discussions, ...

Submission procedures and detailed output requirements per review will be communicated at least two weeks prior to presentations and/or final submission dates.

All deliveries are to be handed-in strictly on time and must be in line with requested output criteria to pass this course.

Failure to deliver any requested materials or output of any kind for any sub-task within the given deadlines is without exception considered as 'non-delivered' and will result in a NA mark or Not Participated (Niet Afgelegd).

Students who cannot attain deadlines or attend evaluations / presentations must deliver their task 'as its stands' within the given deadline, either in person, or delivery by a third-party in exchange for an acceptance-receipt.

I. REFERENCES

- The Act of Building, BC architects & studies, Exhibitions International, isbn 978-94-92-567-09-3
- Material Matters, Thomas Rau and Sabine Oberhuber, isbn 978-946-156-22-58
- Fuck concepts! context! San Rocco summer 2012
- Cradle to cradle, Michael Braungart, isbn 978-0-099-535-47-8
- Massive Change, Bruce Mau, Phaidon Press, isbn 978-0714844015
- Towards a phenomenology of architecture, Norberg-Schulz Christian, Genius Loci, Academy editions, 1980
- A good city has industry: http://www.architectureworkroom.eu/documents/ABXL_Bozar_GUIDE_ENG_DEF_webres.pdf - - Missing link iabr: https://www.iabr.nl/en/editie/iabr2018_2020
- How Buildings Learn, Stewart Brand, isbn: 978-0140139969