

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-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	Bart Broersen
Student number	5224500
Date	25.01.2022

Studio		
Name / Theme	Complex Projects Graduation Studio / Beirut Studio	
Main mentor	Henri van Bennekom	Architecture
Second mentor	Hubert van der Meel	Building Technology
Third mentor	Jelmer van Zalingen	Research
External Examiner	Silvia Naldini	
Argumentation of choice of the studio	Complex project explores a great variety of fields within a foreign context, wherein the student has a lot of freedom to explore their interests to form a topic. These were the main reasons for me to choose the Complex Projects Graduation Studio.	

Graduation project	
Title of the graduation project	Fruitful Beirut
Goal	
Location:	Bourj Hammoud, Beirut
The posed problem,	Lebanon has been dealing with a multitude of challenges over its history. An massive port explosion in 2020 caused a rapid decline of the Lebanese valuta. The inflation caused an increase of the food prices with 400% since Lebanon is very depended on its food imports. This left people from lower income classes unable to afford proper nutrition. Ironically, the Lebanon is one of the most arable countries in the region, but the people lack the proper tools and knowledge to preform agriculture in a efficient and sustainable manner. In order to reduce the peoples dependence on the food prices,

	<p>agriculture education is needed in the areas where the people suffer the most. Bourj Hammoud is one of the low income areas in Beirut, and will perform as the area for redevelopment.</p>
<p>research questions and</p>	<p>The main research question is: How can agriculture education facilitate the people of Beirut? Sub-research questions are: How does sustainable agriculture work?, How to apply that to an urban environment? And what sort of program is needed for the educational facility?</p>
<p>design assignment in which these result.</p>	<p>The design brief encompasses an agriculture campus which combines formal and vocational education. The school aims to teach it's student about sustainable ways of doing agriculture in an urban setting, focusing on the enhancement of biodiversity. The campus hosts both primary and secondary education and teaches agriculture as the main addition to the general classes. The biodiverse farmland that is created functions as a park for the public.</p>

Process

Method description

There are two main methods used for the research, which are literature research and casestudies. Various papers are studied to gain knowledge about education and agriculture. Examples of topics that were studied are the Lebanese education system, agriculture in Lebanon and sustainable agriculture. Cases studies are used to study the programs of Lebanese schools, modern schools and agriculture schools.

Literature and general practical preference

As mentioned above, various papers and casestudies are used to conduct the research. Useful examples are reports from the FAO (Food and Agriculture Organization of the UN) about Lebanon's challenges and opportunities in its agriculture sector. Some of the casestudies that were used are: International College Beirut, Lycée Louis Massignon Abu Dhabi, Biodiversity Gymnasium Paris, Froelicher Highschool France, Güssing Agriculture School, and a personal visit was made to Warmonderhof Agriculture School in the Netherlands.

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 Complex Projects studio aims to develop project that improve the current situation within Beirut. The agriculture campus attempts to achieve this by making the population more self-sufficient and thus reduce hunger. Therefore, a design needs to be made for the school which combines general education with vocational classes on sustainable agriculture. The design needs to combine these programmatic elements in proper way, whilst addressing the environment, climate and cultural context. Therefore it relates strongly with the Architecture master track.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.
 - The design brief stresses that the key to sustainable agriculture is the enhancement of biodiversity. Therefore the building aims to integrate biodiversity within its structure. This will be relevant for expended knowledge on how to combine education with agriculture whilst enhancing biodiversity in one building. It can be used as reference for future studies.