

# Graduation Plan for aE Studio Students

## Personal Information

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## Studio

Name of studio	Architectural Engineering
Teachers	Mauro Parravicini, Marcel Bilow

Argumentations of choice of the studio:

Architecture is a practical science, and I have been trying to explore solutions to the sharp contradictions between the inevitable urbanization and natural context in China since I grow up in a typical Chinese second-tier city, which has boomed in the last 20 years. Technical solutions on the energy and environment is what I am looking for, and the Architectural Engineering Studio is the fertile ground for such ideas.

## Title

100-Step-City: A Vertical City

## Graduation Project

### Problem Statement

Thanks to the internet and express business, nowadays more and more people can limit their daily steps within several hundred. If checking the ranks in pedometer APPs like Google Fit or Runkeeper (in China, it is Wechat), there is always a group of people sinking at the bottom EVERYDAY while 12,000 steps are daily life for some others.

Consumer pattern has changed because of the rise of E-commerce. Big shopping malls have been dead, while some of them had to transform into other functions. Big volumes were broken down and the time of driving for groceries passed. "Click and delivery" gives homebodies the opportunities to stay at home forever.

It is sarcastic when society encourages people to walk in nature while more and more young people are running away from social and parties.

The creative industries offer such possibilities. Architecture, fashion, games, media, etc., these sectors are shouting loud for young also for the future: finally, they will rule the world. Among these, freelancers are a big part of the employees, which means, two-thirds of over 170,000 (<https://www.netherlandsandyou.nl> › publications › 2018/08/05). These artist and designers need something productive, not aggressive, and without social pressure. Thus, here comes the project of 100-step-city, a vertical self-sufficient complex construction. Amstel III in the Amsterdam, the most important creative hub in Netherlands, is a perfect test field. When talking about the old trees, the dog-run-area, the monuments, the market, nothing happens on this land. Most of the constructions here are companies and offices, built during the 1970s and 1980s and the only “funny” stuff is IKEA.

But it can still breath because of the business distinct on the north side, and the Arena Station may be changed into a hyperloop station, even the hyperloop itself is an experimental “train”. No infrastructure, no greens, no human being, but (really) has a good potential for solar and wind energy: Yes, it is ready to be added some elements and to be youthful.

## Objective

This section has to include what the intentions are of the graduation project and is therefore closely related to the problem statement.

The project aims at a vertical, self-sufficient, and mix-used complex.

- Cope with the energy system
- Combine the different programs and footprints while provide a healthy lifestyle, both environmentally and physically
- Optimize the flow in the constructions, and visualize them as the *inside-out*

## Overall design question

How to design a haven for the homebodies or the freelancers in a productive scenario?

## Thematic Research Question

What functions could be applied to the building?

How these functions support each other and close both the energy and material loop?

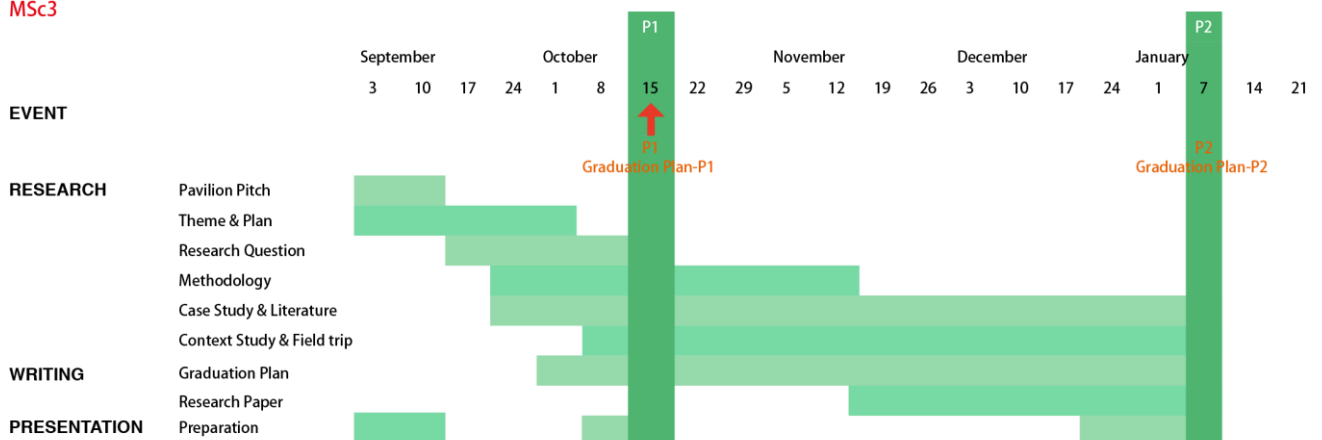
How to store and exchange the energy between different program to realize energy-neutral?

## Methodologies

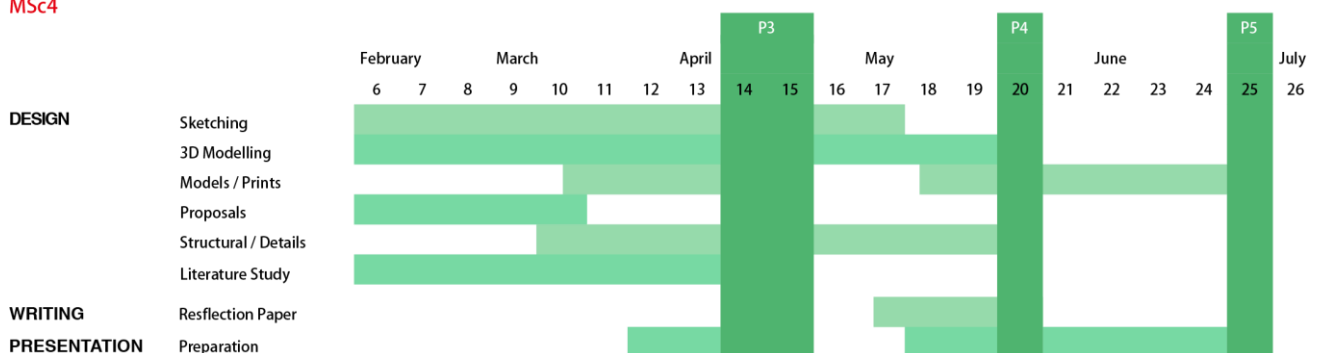
- Case study: the Mixed-use Theme Page from a lot of architect Studios, also the ones for the energy neutral cases
- Fieldwork: visit the context and analysis
- Literature study: read about the documents in flow and energy calculations, define the calculation methods
- Data collection & analysis: Collect the energy consumption data and calculations
- Research through Design

## Planning

### MSc3



### MSc4



## Relevance

Considering the ones escape from social pressure and crowded not-happy-parties, a traditional construction is not enough. Provided with a mix-used building, these people can also be creative, productive and healthy while freelancers and designers need inspirations from each other in a melting pot like this.

The construction will also work in the area without perfect infrastructure. The self-sufficient energy system reduces the stress for the local electricity grid and other energy supplyment.

Besides, the project will be self-sufficient. In case of nuclear pollution or other devastating disaster, it will be a refuge with the help of wind and sun, which will never abandon human beings.

## Literature

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