

ADVANCED CONSTRUCTION autumn 2023

ASSIGNMENT

GENERAL FOR ALL GROUPS

UAADO

You are now , group per group, part of one, large and ad hoc “design office”: the “University Antwerp Architectural Design Office” , or UAADO.

This is a ad hoc and studio type of organization.

The internal staff of partners (= the professional specialists = Elien, Anibal, Filip, Johan) is there to assist you when you have questions.

You will only be able to see them if you schedule a meeting on a Friday morning as per the calendar of this course. You need to schedule this as this staff only has availabilities during the sessions on Friday morning, just as in real projects. And this staff knows you have had a preparation period that ended November 10th expecting you to be able to address an assignment as any junior architect intern in a team.

On top of that YOU are the ones that will be **in front of “the Client”** which will be the same people as the internal staff but now acting and evaluating permanently how you are doing.

Also the Client is only available on Friday sessions as per the calendar (6 sessions in total) and may, or may not be available> you will also have to check and send an invitation for a meeting

Back office support will be by JVR only, 24/7, there you can drop all and any questions and requests for assistance etc. as in an actual design office. Off hours there will be a lag time to be observed, during work hours, idem ditto, as that same person may not always be available.

WHERE and HOW

You will work by yourselves, and work on a project in your chosen region and in the governing rules and regulations, language, costing etc. of that region.

The Client, whom is also not a professional, communicates only based on English documents and expects simple, clear proposals either based on common knowledge or written in plain and easy to understand English.

WHAT

The assignment is to dress, as a group, **a project file for a buildable and realistic project up to tender phase** (no execution nor execution details etc.)(within the available resources, see further) consisting of a set of high end to detailed project file evolutions containing, per level of detail and per formal-informal approach:

- (1) the brief and first building information, including also pre-budgetting and timing statements.
- (2) the RACI and its communication scheme
- (3) the prelim sketch design and the later phases of design and final design with all its documentation, (excluding execution files during site works)

(3) the schedules of quantity with the budgeting estimations first high level and then later on detailed,

(4) the project programming in it's different levels of precision and

(5) the specifications (general conditions and detailed technical specifications)

FOR THE ENTIRE PROJECT

With following start elements.

1° each group will choose (if not they will be assigned) one "mission statement" based on which the group will work out a brief and a preliminary design image using AI

2° Each group shall choose it's region of action, i.e. the governing rules, the construction sector set up and the costs and trades are particular for a region in Europe (preferably).

This means as a start **each group shall identify location and context**, retrieve the big lines of governing rules (timings and procedures of submittals in general, for the programming table) and the construction sector's base data high level (typology based) and/or detailed level at construction element detail, such as unit prices, calculation methods for quantities etc.

WHEN

There is per team member aprox 70hrs in total available in this course (6ECTS, of which 3 for the exercises, including the already attended ones)> this is your "time budget". 4*70 or 3*70 is also the Clients expectation= is what he "pays" for in terms of effort on scope.

Organize it accordingly and design your project in terms of content etc. accordingly. And document this.

The sessions are 6 in number, a preliminary set up could be the following (just a guidance) you are in control for your own team, but there is a Client...

The Start session

AI model and Client's mission statement combined will be addressed

Plus starting your project file and get started with scope, budget, timing

Think about the support material (language and content regional) and the reporting synthesis to the Client (English, plain, clear)

The second session

You will have chosen your topic, but now you need as well an image to identify your Client' expectations and you will simultaneously set up the team and the project > dress the canvas or your project file.

The brief spelled out in statements to allow image production, in an interactive process.

How will there be modelling? And how will it be communicated?

In parallel the capex and timing that should be stated at the first draft of the project file.

And consequently also all involved parties and the RACI scheme that will be used to start with.

The project file is a ROLLING FILE= it will continue to evolve throughout the entire assignment BUT the main items such as brief, budget and timing can only be modified for good reason.

DELIVERABLES at the end of the session: Project File high end with the required elements

The third session

The second session will continue on previous and will also focus on the second level: typology based working out per type of building part or room: design, and second level schedule with budget estimation and timing second level (= by surface or volume and typology, and timing by large divisions only) > adapt design, and other information to allow doing this.

The fourth session

The third session will be about the more detailed Project File, including all elements: Brief check, the more detailed (typical section details etc.) design, the already started more detailed schedule of quantities, the subsequent construction element level cost estimation, the Gantt timing detailed, and a start of the specifications

The fifth session The fourth session will focus on the previous elements worked out and on the specifications and general conditions for the works

The sixth session

Closure and finalization before submittal

PROPOSED PROJECT MISSION STATEMENTS FOR THE GROUPS TO CHOOSE OUT

CHOICE OF PROJECTS

All projects consist of a mid sized project, with at least one specific complexity that impacts on design, budget, timing and organization of the parties involved.

Groups are allowed to modify one of the proposed projects, or not, or propose themselves a project mid sized, with at least one complexity that impacts, as explained.

ATTENTION: the “Client” will react as “real” as possible and may, or will, break into the project with sudden changes of scope or budget or timing, as any real Client will do. The Client will observe and evaluate your resilience in coming up with the right response to the challenge

CONCLUSION: this will be about one mid sized project, with complexity and with an intermediate (but unplanned and hence unexpected, yet feasible) challenge by the Client somewhere during the process of 6 weeks.

Budget= size limitation.

Since the team’s time is limited this is the limiting factor

- $4 \times 70 \times 85 = 23.800 = 70\%$ of a total fee > 34K total fee > 680K construction cost ex VAT
- Aprox 340 to 680 sqm formal project, but larger possible when as an informal, find out for yourself how to handle this.(or mix it, or anything else)

1. RE: (Housing, complexity price) **Affordable housing**

Armentekort, a not-for-profit organization in Antwerp, is looking for affordable housing, preferably grouped co-housing. Set up a housing project for x families of different size and age and use all possibilities of available resources, make use of the commons as well as of social contract cost possibilities (such as land cost using Community Land Trust possibilities) The budget available should take into account paying for the remaining construction costs based on the 1/3 of the poverty level target (= cost for housing) , see here under in the notes.

(The poverty threshold is equal to 60% of the national median disposable household income after social transfers (social security and social assistance allowances). The poverty threshold is adjusted to the composition and size of the household. According to the 2021 EU-SILC survey, the Belgian poverty threshold was 1,287 euros per month for a single person, 2,703 euros per month for a family with 2 adults and 2 children. It is assumed that households with an income below the poverty threshold are at increased risk of poverty.)

2. (Buildings in general, complexity human centered design) **Community building**

Migraineurs, and people sensitive to environmental stimuli that have been diagnosed within DSM5 spectrum disorders, would benefit a built environment allowing them to perform more efficiently and move about more freely. Propose a public community building comprised of a community space , 4 workshops and 2 polyfunctional spaces plus logistics and communal entrance in a small town center that is specifically addressing the environmental stimuli issues involved.

3. (Housing, complexity typology) **Futuristic House**

The concept of futuristic houses that are used to highlight commercial products that are seeking market exposure is usually deviating attention from the real challenges and using

relatively low design for high tech solutions, underpinned with high investment. Propose the exact opposite as a living tomorrow image, based on high design, low tech and as low investment project, using the Commons and other solutions (Community Land Trust etc.) Turn this into a real estate development project, all included.
Size of house is not the determining factor, but cost will be high per sqm for the “pilot”

4. (Education, complexity construction) **Reconsidering education**

New education will require new school building typologies. Design and work out a primary (6 to 12 yrs old) or secondary (12 to 18 yrs old) school building core for 3 groups of pupils (what used to be 3 classes) that will use space differently and thus create a modifiable, adaptive and circular building within the financial and spatial limitations of the subvention by the state or regional educational board (e.g. in Flanders this is Agion).

5. (Housing, complexity construction and energy) **Boomer house renovation**

Use the 1960 typical row housing or detached housing typology to transform it into a climate adaptive and circular housing project, aiming at net zero positive in its energy use. Study the energy, resource and material usages and propose the renovation as a new typology project file, all included. Be critical about the actual available solutions for such housing typologies.

6. (Housing, complexity typology- construction)**Re-wilding**

How can we design and build "in the wild" in the centre of a town? Create a co-housing project for 3 'families' based on the re-wilding concept in the building, not in the open spaces around it. Define what re-wilding would consist of when about housing (material, cohabitation in surrounding natural ecosystems, creation of specific ecosystems,... and then work out the design and construction project accordingly. Identify what, bit also with whom and at what cost (explicit and implicit by commons)

7. (general building: complexity brief) **Pharma always starts small**

A local pharma group is considering a new small and dedicated research facility containing 2 labs 60 sqm each for medical research, individual and communal work spaces outside of the labs for about 12 staff, logistics and a small meeting room section with one admin room. Dress the entire project file (excluding all medical research installations and their technical logistics.)

8. (community building, complexity brief and budget) **De Peperfabriek 2.0.**

Peperfabriek is a not-for-profit community centre organization that organizes and supports community based organizations in the centre of Antwerp. Before renovating their actual location, they were considering a new place. It proved to be a difficult exercise and the project set up in terms of brief and scope, budgeting and timing did not touch ground until today. Propose a brief that engages what they stand for, and then figure out what budget and what timings are within the over all feasibility, based on an ROI within 30 years and limited subventions of aprox 15%. Work out a proposal in a permanent or temporary setting within a building on the Sint Jans plein of your choice, dress the adaptation/renovation file.

9. (Living and working: complexity brief and typology) **Intersectional architectural design**

We are not addressing our housing crisis properly: looking at what intersectional design goals would bring to the table, we have no clear view on how to handle this (migration crisis,

cultural and psychological diversities, poverty and wealth issues, climate change mitigations, ...).

Liberate us from pre-conditioned design and construction thinking and work out what housing could be if we would see it, not as a private commercial and highly standardized fixed product, but rather as a community crowdfunded general building volume systematic with specifics added and hence adaptable.

Develop the solution as an insert on a hub which would be a State provided public infrastructure, the way we today have our roads and mains organized, but now going to the civil construction backbone as this public provision.

Develop how we could create housing and work spaces in this systematic and identify the intersectionality opportunity level of the design and construction. Work out as a project development

There is a long tradition of migrations in Europe (cfr La Méditerranée, François Braudel, > les transhumances) from the earliest ages that were recorded and probably also long before. It is what made our continent prosper finally, but it came also with struggles, famines, and battle and conquering abroad. (Jared Diamond, Guns, Germs and Steel) which is what made many people suffer then and even up to today.

In general however newcomers settled peacefully in many different ways, and leavers found routes to new places and new opportunities, more than we may think.

But even within a region or town, people also move but then along social and financial ladders, poverty and wealth are the result with incomes that may fluctuate more or less depending on external conditions (harvests, technology, wars, climate etc.) . In our recent time diversity is recognized within gender, social conduct, culture etc. to be a constituent part of human nature and not a deviation. People can since then also move more freely within who they are and how they should behave within a group.

We may start to see our environment adapt to it accordingly soon, as intersectional designers will stand up and claim space for all.

10. (Care, complexity brief to construction) **Care close by**

Care has long been seen to need highly centralized and specialized care centres in preferably large hospitals. Today access to basic care is less obvious and a rethinking takes place.

Propose and work out what a small day care for a town aprox 20.000 inhabitants would be, having a limited number of day care bedrooms and 4 doctor cabinets plus one treatment room for simple surgery.

The available budget is as per governing subvention rulings usually at about 70% of an allowed cost per sqm (in Flanders index 1994 is 500 euro/sqm...). Find out for your region what is the subvention policy and what are the numbers.

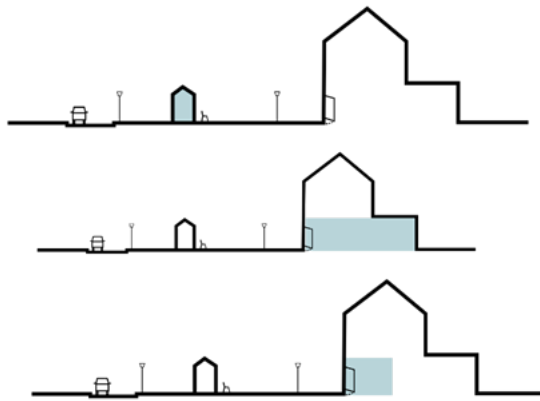
11. (Care, complexity typology and construction layer thinking). . Dress a project file for a **Health Kiosk**

To be able to get access to people in the care activities a growing amount of the population usually does not consult a medical doctor or goes to a hospital. The city is considering health kiosks as first contacts and low threshold connection with care supply or professional advice and care..

This health kiosk contains : a first consultation 'booth' (digital, 24/7) a small temporarily attended medical consultation cabinet, and some vending machines for small pharmaceutical supplies (medication, utensils,...) also 24/7

Develop the solution and split the construction element so that the finishes and installations can be part of any of the possible solutions, leaving only the civil works as contextual.

The possible typology being the following:



Detached, hosted or parasite.

12. Housing, complexity climate change and typology. **The standard and the climate adapted house compared.**

Climate is changing and we need adaptation strategies. For your region, identify the perspectives as identified by the European Union Authorities

(cfr <https://www.europarl.europa.eu/news/en/headlines/society/20180905STO11945/infographic-how-climate-change-is-affecting-europe>, accessed 23/09/21)

Analyse a typical housing unit (detached or apartment) as it is today in terms of construction and cost, timing and design. WITHOUT solving the problem by more installations and more energy usage, (which is what is now on the table) use a passive design solution for a climate adapted housing solution and compare the two types of buildings: the existing and the new, in terms of design outcome, materials etc., cost and timing for construction. Dress a dual project file, as if you were designing and building two base typology standard houses simultaneously (brief is identical, but the resources, design , schedule, budget and timing will be differing), put them together in one project file, using the same QS, but in separate design and timing documentations.

Or propose a similarly challenging project of a similar size and complexity...

PRACTICAL ADMIN FROM UAADO

- 1) We will all use the UA One Drive environment as our file repository, during the work period. Each team has its project file, with the team as members and the partners of the staff, of course.
- 2) The UAADO staff will regularly provide background information, schedule examples, text examples etc. just as in any office, (but not necessarily in your chosen language...) and will provide a simple file set up as a standard to use, for the office to be able to retrieve documents easily.
- 3) The final assignment when finished will be issued in the assignment on Blackboard
- 4) The Client will as of session 2 be part of the office presence during the sessions and will "evaluate" permanently- "as a Client".

Success !