

ARC2014: Design Studio 4 – Comprehensive Building Project Winter 2023

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Gordon Matta-Clark, Garbage Wall, 1970, recreated by the Bronx Museum Teen Council, 2018

End Games

Toward Circularity

This Studio will start by looking at building life-cycles, specifically learning at the multiple ways that life cycles end. Whether through biological decay, disassembly or demolition, these ends today are the logical conclusion of a carefully designed and linear path toward obsolescence. This cycle always starts by means of extraction of resources and ends with burying them. In other words, architects today design wasteful dead-ends.

As a result, today our industry is responsible for more than 50% of the material we extract from the earth, more than 50% of the solid waste we produce and 40% of the CO₂ emissions. As we need to drastically and urgently reduce our impact on the planet, we must to reconsider how we design buildings. It starts by better utilizing our above ground resources.

So let's spend some time rigorously learning about life-cycles and the way in which building are simply part of a never-ending, slow moving river of materials that organize our world. We will investigate material flows, especially the ones related to urban waste, building elements and their life expectancies and metabolic qualities of materials.

Having learned from the life cycles end, we will then design new beginnings with the goal to see emerge new "circular" forms realizing an efficient and beautiful exchange of materials, re-invent the way we occupy space and reframe how we interact with one other.



overall question how “Architecture is essential to realizing an efficient and beautiful exchange of materials”

This early study will also inform how to best “spend” your carbon budget of zero through the life-cycle of the building.

So let’s start by understanding these cycles by looking at material flows

Establish a new language of circular forms

We will ask the students to determine how they want their buildings to end their life, then design a new beginning designing in hindsight.

This early study will also inform how to best “spend” your carbon budget of zero through the life-cycle of the building.

Today, to be a thorough designer, we consider our impact on the environment, become expert in carbon accounting, material provenance and energy efficient, yet we rarely consider how this equation plays over time

for how long our buildings will last

we design buildings for a 60 year lifespan

Can we avoid a building to be demolished, to be come obsolets, is that desirable?

Then we will assemble these

We will then loop back these strategies for end-of-life to design new beginnings

More generally we want to ask the question about when a building begins and when it ends and perhaps suggest that they are more broadly part of a slow moving river of materials that, at some point in time, happened to be together? Architecture has consequence, we shape these material flows over time and can also better engineer

Architects shape the material world,

We will ask the students to determine how they want their buildings to end their life, then design a new beginning designing in hindsight.

This early study will also inform how to best “spend” your carbon budget of zero through the life-cycle of the building.

The goal is to invent

Designed for better end of life, one that re-circulate and upcycle matter

These studies will become a new beginning for students to formulate an approach that

In a world of finite resources

Given the carbon budget available for this project, we will look closely at how to best spend it through the life-cycle of building

All Buildings are predictions

All predictions are wrong

Away from form, specific program

Buildings as slow river of material flow

There is no such thing as a building. A building properly conceived is several layers of longevity of built components

Waste is a lack of imagination

Due to our environmental concern, today the definition of what architecture is has been reduced to an idea of an overly controlled, super insulated and airtight box. This concept, now integral to sustainability best practices, is misleading and reduces architecture to a sealed and static fortress between an interior and exterior climate.

This Studio is a reaction against this simplistic definition and takes the position that to be sustainable, or even exist, architecture must be perforated. As a starting point, we will explore the concept of *perforation* as a way to reconnect to and design for people, nature and the climate.

The goal is to rethink the premise of the well-tempered environment, an endless and stable space, and investigate the perforation's capacities to organize programs, heat, cool and ventilate spaces, absorb water and energy, store carbon, filter air and light, grow plants, create microclimates and beyond.

We will examine perforations at different scales from the macro (urban and ecological) to the micro (particles) and simply look at architecture as being the 'art of perforating'. Through that lens, we will study precedents and examine architectural elements such as walls, floors, ceilings, roofs and how they strategically integrate perforations such as windows, doors, stairs, vents, shafts, grilles, shades, etc. to become inhabitable space connected to our larger environment.