

## **Kupfrian Hall**

**A New Focus for NJIT**

**CLASS TIME:** Monday, Thursday, 9:00 AM - 12:00 PM; 1:00 PM - 5:30 PM

**INSTRUCTOR:** [Darius Sollohub](#)



This Summer 2025 Options Studio will program and propose designs to adaptively reuse Kupfrian Hall, once the heart of campus. Built in 1960 as a hybrid library and theater, Kupfrian was the brainchild of President William Hazel, who envisioned this structure as a marker of an optimistic time for the soon to be New Jersey Institute of Technology as it transitioned from a local college to a public research university. Kupfrian sits prominently on the campus green along with a handful of buildings built in the mid-century modernist style prevalent in that period. Among these Kupfrian stands out: its custom-made curvaceous brick façade and its slate floors bespeak an important building.

Yet after 50 years, Kupfrian's prominence has dimmed. Still a theater but no longer a library, other NJIT buildings now draw more attention. The current Campus Master Plan calls for its complete or partial demolition to enhance the view of surrounding buildings. The costs of enhancing that view are many: ten years ago, an analysis estimated a demolition cost of \$6 million, a number now higher from inflation. In an era of budget concern, what if that amount were dedicated to renovating instead? From an environmental aspect, it is often stated that the most sustainable building is the one not built. The carbon footprint of demolishing Kupfrian would greatly increase that of new construction. From a preservation viewpoint, matching the quality of craft and materials today alone may likely exceed the demolition budget. Is it not better to preserve it for the future to commemorate an important NJIT milestone?

The studio will work to provide alternatives to demolition that meet a variety of programs. It will proceed in concert with and seek direction from an assembly of NJIT administrators, faculty, staff, and students. Andrew Christ, NJIT's Vice President for Real Estate Development and Capital Operations, will serve as the liaison to the studio and guide the process, which will employ Building Information Modelling to validate all proposals. The studio will also parallel a design examination of refurbishing the adjacent Campus Center. Blending these design initiatives has many benefits; as NJIT embarks on a new master plan, visions for a restored Kupfrian and Campus Center will guide it. Compelling arguments may even influence future construction, thus giving students a chance to have a profound impact on their alma mater.

Viktoria Diskina, [vmd3@njit.edu](mailto:vmd3@njit.edu)

## HOUSING 2200

### HOW DYSTOPIAN IS THE FUTURE?

#### STUDIO PROPOSAL

*A map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing. And when Humanity lands there, it looks out, and, seeing a better country, sets sail. Progress is the realisation of Utopias.*

Oscar Wilde, 1891

*But within every dystopia there's a little utopia.*

Margaret Atwood, 2013

It is hard to look at the current state of the world and be optimistic about the future. Climate crisis, passing the point of no return; sea level rising and guaranteed shortages of drinking water; AI likely disrupting the world economy and taking away jobs; global politics shifting to the far right; unending string of pandemics - all of those processes seem to lead us straight into dark ages of resource scarcity and deteriorated society values. It is no wonder that dystopia is the most popular movie genre, its production outpacing all others almost four times.

From the ideal cities of the Renaissance to futuristic projects of the 20th century architects have offered many different visions of the future, often controversial and heavily disputed. They all relied on advancement of science and technology as key solutions though, something we have learned since is not necessarily the case. Also, depending on cultural and political values, what seemed like utopia for some looked like the worst nightmare for others. Almost to sum it up, in 1973 Tafuri argued that an utopia was unachievable.

Where does that leave us? Is it remotely possible to imagine the future in environments that are sustainable as well as just and egalitarian, offering a better life for all, not the selected few? What is it going to be Wakanda or Arakkis? The research subject of this studio will be the ongoing dialog between architecture and movie making in creating iconography for popular culture, specifically for the image of housing. Responding to the same set of global concerns, both industries often offer matching interpretations as they borrow heavily from each other's scripts and visuals. The studio will both explore and challenge those vocabularies.

In the first half of the semester students will develop housing proposals as critical commentaries for the most popular dystopian and utopian movies. In the second half - each student will develop her/his own scenario for what life on the planet Earth will look like in 2200 and what dwellings humans (if still present) will inhabit. All proposals must be rooted in extensive research and clearly connect each housing typology with a vision for a larger picture: societal structures, state of technology, environmental conditions, and settlement patterns.

arch

NJIT Architecture

Summer 2025

Options Studio

Maria Aurora Bonomi Durer Bacchetti  
and Peter Dumbadze

# 463/464 Corner!

## The Intersection of Architecture and Food



The Staff of the Bear, *The Bear*, FX Network

Food.

It's what unites us.

It's what brings us together.

Food is the supporting actor in the performance of the dinner table.

It's what creates the spatial arrangements that bring people together multiple times in a day; infinite iterations in a lifetime.

In the second season of FX's *The Bear*, we see firsthand the intersection of food and architecture, as the ragtag team of kitchen staff put down their knives and pick up hammers to begin construction of what they hope will become Chicago's definitive fine dining experience. Parallel to navigating the maze of passing fire suppression tests and paying vendors, we see the kitchen staff working through creating new dishes that not only challenges fine dining conventions but also draw upon each of their own backgrounds. The simmering of architecture and food together produces a roux that shows how material culture is an amalgamation of personal and collective experiences that revolve around the cook top and dining room table.

In Corner!, we will look at the intersection of food and architecture, and how it is discussed in media. Using the tools of cultural anthropology, historical analysis, and architectural representation, we will document where the act of cooking and eating has been, where it is now, and where it will be in the next five to ten years. A design research studio at its core, Corner! will seek to identify through rigorous case studies and projective iterations how food can be an accelerant in creating architectural situations.

The final product of this course will be an exhibition of the student's research and proposals.

# Good, Better, Best: Designing Materially Optimized Buildings for Extreme Climates

John Cays

Summer Options Studio 2025 Arch 463/4

Monday, Thursday, 9:00 AM - 12:00 PM; 1:00 PM - 5:30 PM

## Studio Brief

### Objective:

As desertification increases around the globe, this studio explores the intersection of material innovation, climate responsiveness, and cutting-edge design tools to create a 30,000-square-foot institutional facility in an extreme desert climate. The project aims to achieve Net Zero energy performance while leveraging One Click LCA for material optimization and lifecycle assessment. Students will design a facility that is functional, sustainable, and aesthetically compelling, responding to the harsh environmental challenges of *desert regions*.

### Context:

Desert climates are characterized by extreme temperatures, low humidity, and intense solar exposure. Designing in such environments necessitates a thoughtful approach to material selection, passive strategies, and energy efficiency. Traditional approaches often emphasize thermal mass, shading, and evaporative cooling, but emerging technologies now allow for more precise assessments of environmental impact and material performance.

### Key Challenges:

The design must address climate resilience by tackling diurnal temperature swings, solar radiation, and water scarcity typical of desert climates. Material efficiency is crucial, requiring careful selection and optimization to minimize environmental impact while maximizing performance. Using tools like One Click LCA, students will conduct life cycle assessments of materials. Achieving Net Zero building design involves incorporating renewable energy systems, passive design strategies, and efficient technologies to balance operational energy needs. The facility must also balance form and function, serving as both a landmark and a practical institutional space.

### Tools and Methods:

One Click LCA will be utilized to evaluate embodied carbon and lifecycle impacts of materials. This tool will enable comparative analyses to identify the most sustainable material choices for

structural, envelope, and interior components. Autodesk Revit will serve as the primary Building Information Modeling (BIM) tool, providing detailed digital models that streamline data export and integration with One Click LCA for accurate life cycle assessments. Revit's parametric capabilities will also support exploration of design alternatives and optimization of performance. Net Zero strategies will include renewable energy systems like photovoltaic panels or wind turbines, passive cooling and heating strategies such as thermal mass and natural ventilation, and water management solutions tailored to arid conditions. Parametric design tools will facilitate the exploration of innovative geometries, optimize shading and thermal performance, and simulate energy performance to refine the design.

## **Program:**

The 30,000-square-foot institutional facility will comprise public spaces such as a lobby, exhibition areas, and multi-purpose halls; private spaces including offices, meeting rooms, and support areas; technical spaces like mechanical rooms, storage, and IT facilities; and outdoor areas designed for thermal comfort, featuring courtyards, shaded walkways, and landscaped zones.

## **Deliverables:**

The project will include a comprehensive design proposal integrating climate responsiveness, material optimization, and Net Zero energy strategies. A material analysis report will document material choices and lifecycle assessments using One Click LCA. Energy performance simulations will provide evidence of achieving Net Zero operational energy, supported by analytical models. A detailed Revit model will demonstrate design intent and material selections, prepared for life cycle assessment. Presentation boards will showcase compelling visuals, including plans, sections, renderings, and diagrams illustrating the design concept and strategies.

## **Evaluation Criteria:**

Projects will be evaluated on innovation, with an emphasis on originality and creativity in addressing the desert climate. Sustainability will be assessed based on the effectiveness of material and energy strategies in reducing environmental impact. Functionality will be judged on how well the design meets programmatic requirements and user needs. Aesthetic quality will consider the visual and experiential impact of the building.

## **Timeline:**

The studio will progress as follows: Weeks 1-3 will focus on research and concept development. Weeks 4-6 will involve preliminary design and material analysis. Weeks 7-9 will emphasize refinement and performance simulations. Weeks 10-12 will be dedicated to final design and presentation preparation.

## **Studio Goals:**

This studio challenges students to think critically and holistically about the future of design in extreme climates. By integrating advanced tools and sustainable practices, participants will pioneer solutions that redefine what it means to build resilient, beautiful, and materially optimized structures.