

ADVANCED
SYNTHESIS
OPTION
STUDIOS

So/-

F16-S18

INTRODUCTION

This is the catalogue of Advanced Synthesis Option Studios F16-S18. We are working towards a system where the studio descriptions will be updated and expanded each year to give a future focus on the next four studios in the BArch program for 4th and 5th year students.

STUDIO SELECTION PROCESS

The faculty will determine the studio allocations before the beginning of each semester, (in August for the Fall and in November for the Spring semesters).

Students are invited to consider the upcoming studios and express their preferences for the immediate semester in the light of their short, medium and longterm interests and ambitions.

SUBMIT

We would like to receive a discursive response to the options available, with preferences expressed for at least three F16 studios with a minimum 100 words for each, describing what you would contribute to and gain from working in that studio.

To put this immediate set of objectives for F16 into a larger context we ask in addition, that you set out the longer term trajectory that could be the outcome of taking any of these three preferred studios.

Please could you return your written response to me by 6pm on Monday 15th August 2016. Students who are studying abroad for the F16 semester need not submit their preferences.

There will be an invitation for another submission of preferences in November for the S17 studio allocation process.

The studio allocations will be announced on August 22nd.

Mary-Lou Arscott AADip RIBA
Associate Studio Professor + Associate Head



ASO studios listed

F16-S18

F16

| | | |
|--------|---------------------|---|
| Arcott | Thesis | & Independent Projects |
| Ficca | Matter Matters | Proto-typing the process |
| Folan | UDBS | Cultural Construction |
| Hayes | Rail to Sails | Hoboken Terminal + Railyards Redevelopment |
| Kline | Multiplied Grounds | London Bishopsgate Goodyard |
| McNutt | Living Space Studio | Cooperative Housing for the commuter and criminal |
| Smith | Furniture Studio | Design and Construction |

S17

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|----------|----------------------|--|
| Arcott | Thesis | & Independent Projects |
| Bard | Timber | Contemporary Wood Construction using Robotic Fabrication |
| Damiani | Mies Reconsidered | Architecture to Detail / Detail to Architecture |
| Folan | UDBS | Cultural Inclusivity |
| Hayes | Ephemeral & Enduring | Performance + Architecture, Festival D'Avignon |
| Kline | Housing Archipeligo | London Speculations of Density |
| Loftness | Studio SteamBox | Architects as Inventors of New Building Type |

F17

| | | |
|--------|-----------------------|---|
| Ficca | Proto-Type | |
| Folan | UDBS | Deconstructing Blight |
| Hayes | Frozen Music | The Architecture of Movement, La Guardia Airport. |
| Holmes | Furniture Studio | Design and Construction |
| Mondor | Infrastructure Studio | Forces Underlying Urban Form |
| TBD | Thesis | & Independent Projects |
| TBD | | |

S18

| | | |
|---------|-------------------|--|
| Arcott | Moving Image | Accelerated Practice, Architecture and Film |
| Bard | Low Relief | Reconsidering Architectural Plaster with CMOA and HACLab 2.0 |
| Damiani | Palladio | Institute and Archive, Vicenza, Italy |
| Cupkova | Thesis | & Independent Projects |
| Folan | UDBS | Reconstructing Authenticity |
| Gruber | Co-operative City | Urban Tactics, Actions and Assemblies |
| Hayes | 4-D Architecture | Dynamic Design for Dynamic Use, WTC Performing Arts Center |

THESIS

and independent projects

All Thesis/IP Students will be required to take Thesis Prep in the preceding Spring Semester

The studio comprises a number of disparate and demanding projects that have all required sustained independent work in preparation and will continue through the Fall and Spring semesters. There will be an exhibition of the work in the Miller Gallery in April 2017

The definition of 'thesis' within the context of a professional program in architecture depends a lot on who you talk to in a diverse and often-contentious field of views that spans institutions, individuals, generations, and schools of thought and practice. Tied to the question of 'what is a thesis' are of course varying opinions on what constitutes research in architecture—and whether we do research to frame a project, its argument, and methods, or if in conducting a design investigation we are in fact doing research.

In either case, if we agree that research is being done, then we can also say that in crafting a thesis project, you are entering a wider conversation and exploring problems that have puzzled and inspired others. By proposing your own set of critical questions and methods of inquiry, you recognize your responsibility to engage seriously and rigorously with prior work, and to extend its intellectual scope through your own contribution. This studio adopts this view.

The aim of this studio is to guide you to through the process of clearly defining and structuring a thesis project. The Spring semester will follow the successful completion of the thesis development in the Fall semester. The studio is a venue for constructive discussion and mutual critique. In addition to the core thesis students a limited number of independent project proposals for a semester long studio project can be considered.

While a project is not expected to be a 'building,' it should rigorously address spatial concerns including how space informs and intersects with other processes (social, ecological, historic, etc.). The scale of consideration can range from bodies to territories.

In this studio students are expected to engage and develop a wide range of interrelated capacities, including critical thinking, analytical writing and reflective design production.

*Mona Hatoum
Hot Spot III 2009
Photo: Agostino Osio*



F16



48-519 Thesis/IP
Mary-Lou Arscott
MWF 1.30-4.20pm

MATTER MATTERS

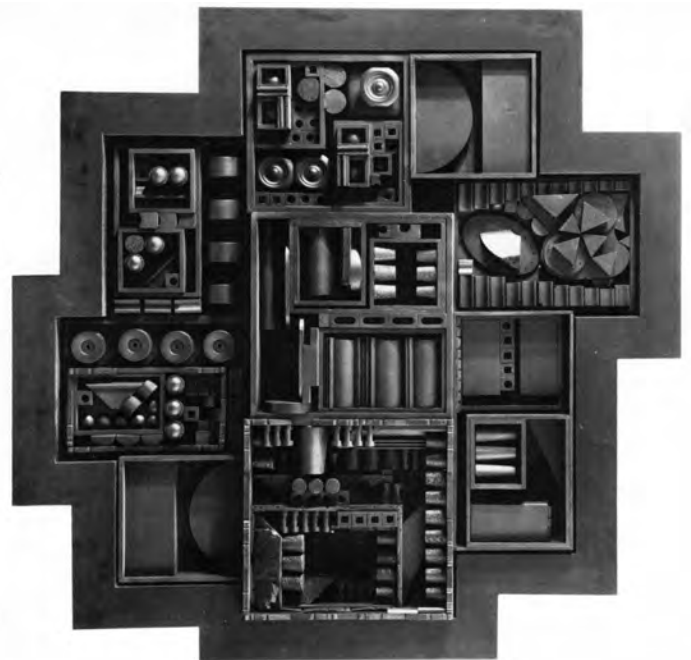
Prototyping the process

As an architect you scribe your tales into the sand of the earth and the language of materials. In the beginning you meet materials as a challenge. You try with all your power. You force it. But the significant architects develop a dialog with materials. -Sverre Fehn

Perhaps you've heard the statement 'architects make drawings not buildings' or had this validated through hours pouring over construction documents and red lines. We've seen how evolving models of practice such as design-build and technological advancements such as BIM and digital fabrication are redefining how architects work and collaborate. These are significant transformations that will continue to reshape how architects operate and collaborate to offer new levels of design opportunity and responsibility while shifting what we do. Yet, there remains a basic truth to the opening statement and its presumption that there is a fundamental distinction between the work of the architect and the construction of the architecture. As Robin Evans reflected upon, "architects rarely work directly on the object of their thought, always working at it through some intervening medium, almost always a drawing". While we draw and model (virtually and physically) in different ways than when Evans wrote *Translations from Drawing to Building* in the mid 80's, his statement remains relevant. This distance from the final, actualized work is not to be lamented. The displacement of one's labor and process of abstraction and translation, mediated through conventions of architectural representation, can serve as a conduit for the intellectual investment of the work. It allows us to see the work through different lenses and with different information sets. Yet, taken to an extreme,

a design process that is disembodied and disengaged from architecture's ultimate material rendering undermines our ability to challenge convention, leverage material, and collaborate meaningfully with those constructing the work. This studio promotes a design process that is transformed and enriched through direct engagement with architecture's material realm at the earliest stages of design. It will explore how material experimentation and evaluation inform design and lend substance to the work to engender sensibilities that leverage contemporary techniques of design and fabrication. Physical models and prototypes, produced through both analogue and digital fabrication, will play indispensable roles in the development of the architectural proposal. These constructions will supplement

*Assemblage,
Louise Nevelson*



F16



48-400/500 Studio
Jeremy Ficca
MWF + 1:30 - 4:20PM

MATTER MATTERS

And we may now be in a position to think about the origin of form and structure, not as something imposed from the outside on an inert matter, not as a hierarchical command from above as in an assembly line, but as something that may come from within the materials, a form that we tease out of those materials as we allow them to have their say in the structures we create.
-Manuel De Landa

conventions of architectural representation to establish a more robust and comprehensive understanding of the work. The project will culminate with the fabrication of a large scale architectural prototype to supplement models and drawings.

The studio will work on a site in Pittsburgh's south side to explore communal housing through an urban hostel. The site is adjacent to the Terminal Warehouses along the Monongahela River, one of Pittsburgh's great industrial buildings, and includes vestiges of the city's industrial past while serving as a critical component of riverfront redevelopment and the reclamation of the river edge for public access and leisure.

The semester will begin with a brief design project heavily focused upon physical modeling and conducted individually. Students will then form project teams of two to commence the hostel project for the remainder of the semester. The studio is comprised of students in the Master of Advanced Architectural Design and Bachelor of Architecture programs.

The studio will meet in the CFA studios on Mondays and Fridays from 1:30 – 4:20 and in dFAB on Wednesdays from 1:30 – 4:20. These Wednesday meetings will provide opportunities for digital fabrication and material processing workshops and general workshop time to develop models and prototypes.

The studio will travel to Philadelphia early in the semester to visit and exhibit of prototypes and drawings from the practice Kieran Timberlake and visit the recently completed Barnes Foundation, by one the leading materially sensitive practices in the US, Willams | Tsien. Financial support by the Alcoa Foundation assists with material expenses, prototyping fees and travel expenses.



Herzog & DeMeuron models; Original Terminal Warehouse complex; Current site context

F16



48-400/500 Studio
Jeremy Ficca
MWF + 1:30 - 4:20PM

Cultural Construction

The 2016/2017 Urban Design Build Studio (UDBS) will explore the relationship between culture and inclusivity through Public Interest Design (PID). The Fall 2016 Urban Design Build Studio (UDBS) will operate anthropologically, focusing on the intersection of material and social culture. Three modes of practice, reconnaissance, reconstruction, and prefabrication, will be utilized recursively to enhance nuanced perception of place, behavior, and continuity.

The studio will employ these modalities through the execution of two Public Interest Design (PID) projects: 1) August Wilson's House Restoration, and 2) the

XX Bienal Panamericana de Arquitectura de Quito (BAQ 2016). Work on these projects will be informed by Reality Computing. Predicated on the concept of Capture, Compute, Create - Reality Computing relies on the digital capture of physical information, the creation of physical experiences through digital translation, and the making of higher impact/performance end products with the output. The implementation of Reality Computing applications in the development of projects will be facilitated through collaboration with an interdisciplinary team of graduate and undergraduate students in the IDeATe program. The UDBS/IDeATe collaboration will leverage capacity, enhance processes/digital workflows, and increase social impact through the use of Reality Computing.



F16



48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Cultural Construction

In Application, Reality Computing will be utilized to digitally reconstruct the Bedford Avenue Façade of celebrated playwright, August Wilson's Childhood home. The home, on the Historic Register, is also the setting for two of Wilson's Pulitzer Prize winning plays. In jeopardy of being lost due to decades of neglect, this culturally significant structure is now the focus of a community driven preservation effort. Working closely with residents, NGO's, funders, consultants, and a general contractor, the UDBS will utilize drone-based photogrammetry, lidar scanning, and photographic reconstruction to create virtual visualization tools. These tools will be utilized by the UDBS and partners for a range of purposes including public consensus building, Pennsylvania Historic Review Commission (PHRC) approvals, digital fabrication, and construction.

Realization of the Bedford Avenue façade will rely heavily on the use of the UDBS mobile digital fabrication lab, RE_FAB, to prefabricate the storefront façade in facilities at PROJECT RE_ over the course of the semester. Once restored, the building will serve as the anchor of the Daisy Wilson Artist Community in Pittsburgh's Hill District, presenting an opportunity for the community to determine how it extends a rich heritage, and poises the neighborhood for the future. Utilizing RE_FAB, the UDBS/IDeATe will play a central role in facilitating the exploration of the duality between past and present through on-site public engagement and demonstration of fabrication technique during project construction. Those events will be utilized for real-time participatory creation and integration of complimentary, non-preservation constrained, detail components into the construction.

F16

48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Cultural Construction

Outreach work with stakeholders in the Hill District over the course of the semester will be utilized as a research platform to speculate about potentials in Public Interest Design that are globally transferable. Selected to the XX Bienal Panamerica de Arquitectura de Quito (BAQ 2016) opening in November 2016, the UDBS will utilize ephemeral installation and interactive workshop design to communicate with public audiences in Ecuador. As exhibitors at the BAQ, UDBS will generate and engage in a variety of events that facilitate a direct approach to social realities encountered in urbanized areas. Provided the opportunity to participate in the Bienal, November 14 through November 18, UDBS students will utilize Reality Computing to experientially reconstruct applied practices from Pittsburgh in Ecuador. Provided access to global leaders in Public Interest Design, exchange of ideas through UDBS developed workshops will enable the studio to utilize experiences at the Bienal as a mechanism for reconnaissance; a survey of practices that reach beyond patronage and catalyze tangible social impact in communities that are resource challenged.

The CULTURAL CONSTRUCTION studio is a component of a broader Public Interest Design continuum established by the UDBS and PROJECT RE_. This studio provides a pre-text for work in the Spring 2017 UDBS ASOS, CONSTRUCTING INCLUSIVITY, and subsequent Summer 2017 UDBS Paid Internship. Skill sets and sensibilities developed in each UDBS ASOS and Co-requisite courses are intended to inform subsequent studios. The structure is designed to enable students to progress through a sequence of Public Interest Studios as a focus, or participate in individual studios electively. UDBS summer internships are reserved for students who have completed Urban Design Build Studios, and are offered based on demonstrated ability to accept responsibility.

The studio will meet Mondays and Wednesdays from 12:30PM to 4:20PM.

Students enrolled in the Urban Design Build Studio (UDBS) CULTURAL CONSTRUCTION Studio are required to enroll in 48_520, REPRESENTING ACTIVISM (9-12CU Flex).

REPRESENTING ACTIVISM will meet on Fridays from 12:30PM to 4:30PM.

Wednesdays will be utilized for collaboration with IDEATe in the Collaborative Making Center, Hunt Library.

This studio is generously funded by Autodesk, the Heinz Endowments, the Urban Redevelopment Authority of Pittsburgh (URA), the Pennsylvania Historic Review Commission, Denzel Washington, and Laurene Powell Jobs. Work on the August Wilson House will be executed in collaboration with Pfaffmann + Associates Architects, for the Daisy Wilson Artists Community. All construction work will be done in collaboration with the Trade Institute of Pittsburgh (TIP) and Construction Junction (CJ). Students will work shoulder to shoulder with populations representing the communities where the UDBS practices.

F16

48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Cultural Construction

CONTEXT:

The UDBS is a Public Interest Design (PID) entity. Each individual enrolling in this studio recognizes that work is executed in communities, with residents served by the Urban Design Build Studio (UDBS). With the enormous privilege that this opportunity provides comes responsibility. Work is done for clients with unmet needs, working to budget and schedule demands required to meet their needs. Students are expected to be present for all client meetings and participatory design sessions. While every effort will be made to schedule community/client meetings during class time, client need/schedules will determine times outside of scheduled class. By enrolling in the Urban Design Build Studio (UDBS), students understand and acknowledge that there are risks in travelling to and from work sites, meeting locations, and other studio related destinations visited regularly throughout the course of the semester.

Students acknowledge that they understand PROJECT RE_, the primary work and fabrication space utilized by the Urban Design Build Studio (UDBS), is an off-campus facility. The space at PROJECT RE_ is utilized as needed and students are responsible for their own transportation to and from the facility. UDBS work includes physical labor and requires the utilization of construction tools/equipment that may cause bodily injury. Students acknowledge that they understand the risks associated with using the tools and do so of their own volition. The Urban Design Build Studio (UDBS) collaborates with organizations include individuals with previous legal violations and/or incarceration. The Trade Institute of Pittsburgh (TIP), a partner in PROJECT RE_, focuses its apprentice training on individuals re-entering society post incarceration. Students enrolling in this studio acknowledge that they understand the working conditions and have elected to participate in the studio of individual volition.

F16

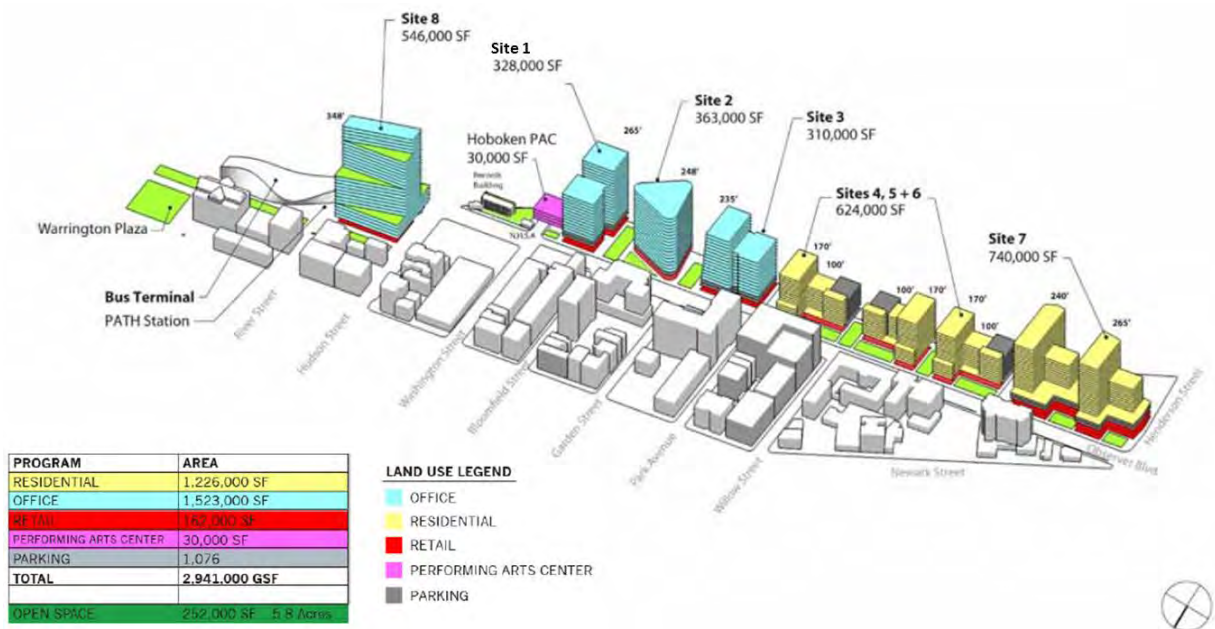


48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

RAIL TO SAILS

Hoboken Terminal & Railyards Redevelopment

Hoboken Terminal is New Jersey's premier transit hub, a critical multi-modal transportation facility served by every major mode of urban mass transportation: commuter rail, heavy rail subway, light rail transit, commuter and local buses and ferries. However the Terminal and its railyards are also an underutilized resource that could become a destination which is a natural opportunity for development benefiting the entire City, dramatically improving Hoboken's economic health & tax base, cultural life, open space and recreational resources, providing a more balanced, sustainable and resilient mix of land uses while reducing undesirable development pressure in the City's vibrant and historic residential neighborhoods and institutional waterfront areas.



F16



48-400/500
Hal Hayes
Time/day TBD

RAIL TO SAILS

Hoboken Terminal & Railyards Redevelopment

A mixed cohort of MUD and ASOS students will study this urban district through the lens of the city's master plan and private developer proposals. We will meet with the public officials, developers, the professional design team working on the real project, neighborhood residents and workers. During the first half of the semester student teams of two will develop alternative urban design master plan concepts, development strategies and land use mixes for the site. During the second half of the semester Individual students will design and test detailed development concepts for sites within this overall district master plan.

This studio will emphasize the use of hand sketching, physical models and iteration of design, research and analysis at varying scales and degrees of resolution. Students must also expand their mastery of digital and parametric tools for both analysis and conceptual/morphological design development .



F16



48-400/500
Hal Hayes
Time/day TBD

MULTIPLIED GROUNDS

London Bishopsgate Goodsyard

FALL & SPRING LONDON STUDIOS

This pair of studios will explore the physical challenges and socio-economic terms for densifying London, a city where the dynamics of globalized market forces are threatening to overwhelm the public interest, or as Rowan Moore puts it: "liquefying the city into profit." Through linked but very different projects, the two studios will explore how architecture and urbanism can reassert the public interest through projects that address large scale issues of housing supply and affordability, and public realm quality and accessibility.

This studio will pursue an approach that argues "for the autonomy of the project, for the possibility of architectural thought to propose an alternative idea of the city rather than simply confirming its existing conditions."
- Pier Vittorio Aureli

BISHOPSGATE GOODSYARD

The studio will engage with a complex real world mixed-use urban development project and explore alternative schemes that seek to reassert the public interest in the face of intense globalized market forces shaping London. An optional trip to London will follow the studio in early January 2017.

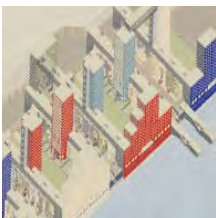
The current Goodsyard proposal calls for a mix of uses with a focus on housing in buildings ranging from 8-40 stories tall around an existing overground transit station and viaduct. The current proposal also calls for preserving existing historic rail arches and creating a new elevated park on top of them. The height, use mix and especially, the affordability of the current development proposal have been heavily criticized from a number of angles, and it is likely the project will be radically rethought under the new political leadership. In response to this open-



Problem:
View from inside the Goodsyard site today (top). The current highly controversial proposal for the Goodsyard by Farrells (bottom).

Inspiration - Cities within a city: Opposite: O.M. Ungers (top) and OMA (bottom), competition proposals for Roosevelt Island.

ing, the studio will create a new framework for the project by exploring a range of urban design scenarios that reimagine how, for whom and to what public benefit high density new uses, amenities and public space could be created on the Goodsyard. Students will work in 2 or 3 teams to explore urban design scenarios for half of the semester, and then in the second half zoom in to the scale of one or more buildings with an emphasis on designing the relationship between buildings and the public realm.



F16



48-400/500 Studio
Jonathan Kline
W/F + 12:30-4:20

LIVING SPACE STUDIO

Cooperative Housing FOR THE COMMUTER AND THE CRIMINAL

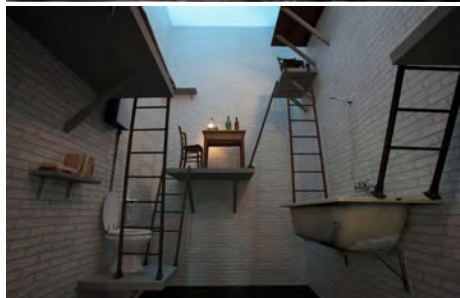
There will be an optimal studio trip to Baltimore during the Fall semester.

The semester will be broken into two parts. The first few weeks will investigate cooperative housing for commuters in Pittsburgh region. The remainder of the semester will focus on Neighborhood Criminal Rehabilitation Center in Baltimore, MD. The semester will include a few site visits to existing Community Incarceration Centers in order to encourage an open dialogue about criminal rehabilitation, civilized life and the role of the architect in the production of space.

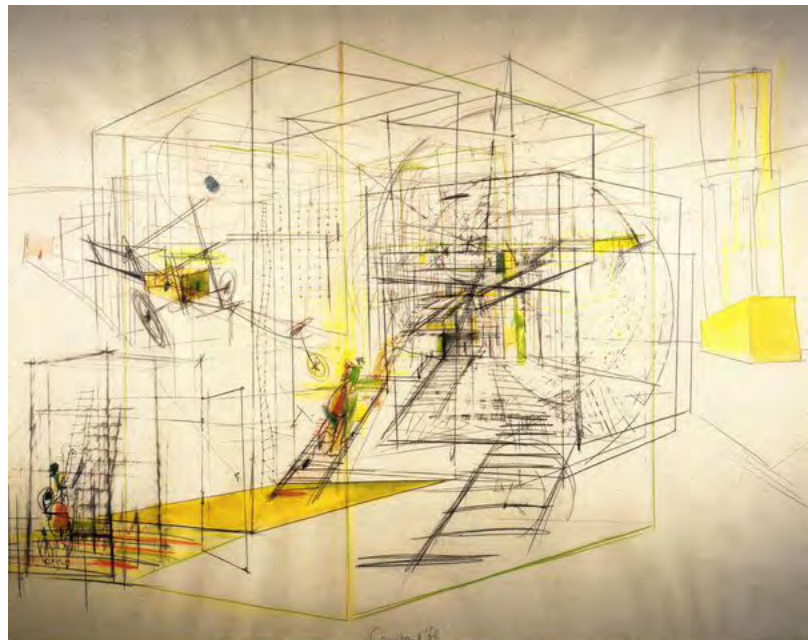
Understand living space begins within the experience of your immediate space. Although a critical part of this semester will be to design for a particular client – commuters and ex-offenders – I believe it is equally essential to allow yourself to have a heightened awareness of your surroundings so that you understand your position in space as it relates to the “other” for which you will design. I ask that you allow your experiences to share equal ground with those that you will study. Although drawing and modeling will be essential tools to investigate space and develop dynamic architectural solutions, it will also be important to clearly represent ideas and collective experiences in graphically compelling ways.



*Inmate 7213
Joliet Prison
Photographs,
ca. 1915*



2) *Cell
Alexander Brodsky for
YouPrison Exhibition,
2008*



*Sketch for a Mobile
Labyrinth –
Constant's New Babylon,
1968*

F16



48-400/500
Mick McNutt
(M)W(F) 12.30-4.20pm

FURNITURE STUDIO

Design and Construction

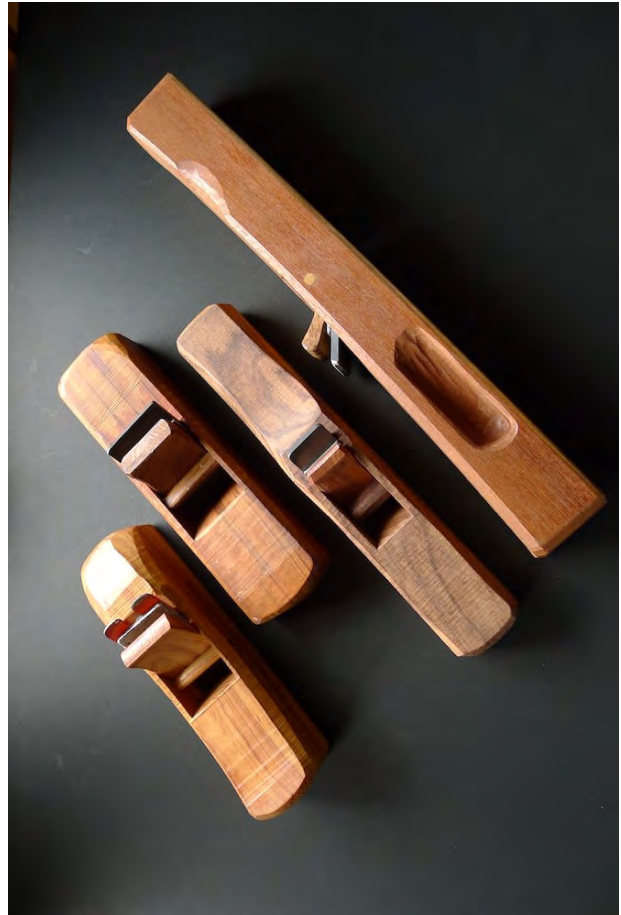
Course Description

The studio this fall is open both to students who have already taken shop minis and electives, and those who haven't taken any shop courses beyond the first year. But everyone who takes the studio must come with a willingness and desire to acquire, practice, and perform the skills needed to give form to the idea.

There is a creative core in people which is much more closely related to the hand than to the head. This core is universal and is the source of the connection that all people can feel with something well made. It is the source of an intrinsic meaning that handmade objects have and that all people understand. This class will attempt to connect the inexperienced maker with the universal meanings that emerge in objects made by hand, and sweat, effort, commitment and persistence.

The course will teach you to trust your eye, hand, and intuition. This trust is the substance of self-reliance. Handmade objects express the perception, physicality, sensitivity, and passion of the maker.

This furniture studio will seek to generate form in direct response to the material, guided by the capabilities of machines, the experience of the maker and the tools available, while responding to ergonomic considerations. The emphasis will be on the use hand tools and power machinery. It is primarily a non-digital studio. Computer aided design will be permitted only to facilitate the hand.



James Krenov,
Wooden Hand Planes

The principal objective of this course is to complete a functional object and is also about finding a path- exploring it, assimilating the lessons it offers and integrating them into a coherent travel log of your journey. The travel log is the object, but if the object is not complete this "travel log" may become the point of final evaluation.

F16



48-400/500
Scott Smith
M/W/F 1.30-4.20pm

FURNITURE STUDIO

Design and Construction



Brian Bollens F15



Daniel Gomez
Latorre F15

IMPORTANT NOTE:

Students enrolled in this class must come to the FIRST class with several sketches of 3 different types of furniture to build.

The studio will require hand work in drawing, design and fabrication.

Computers may be used to assist design in generating alternatives/ variations, but the final iteration of the design will be hand drawn full size on ply. All wood fabrication will involve non digital tools and machinery. This will serve to strengthen those important links between hand and eye/mind, perception and intuition, touch and understanding.

Underlying the course is the notion that modern sculpture provides the aesthetic context for modern furniture making. The studio will start with a project known as the "little Noguchi". Noguchi is one of a list of sculptors about which the students will be required to report. The project is an assemblage of interlocking slabs following Noguchi's aesthetic and vocabulary. Noguchi used stone slabs in his sculpture, the students will use wood. The project will put all class members on a common footing from the beginning.

Upon completion of the little Noguchi, work will begin on the main project of the semester. Students who have taken shop classes already will choose the piece of furniture they will build within specific parameters. Students without this shop experience will be assigned the piece of furniture.

This year, the construction of at least one full size prototype of your design will be used to introduce students to the making of wood joints and the best fabrication techniques, and to resolve design. Great emphasis will be placed on producing furniture that is beautifully made, functional, durable and comfortable. That is, those qualities Vitruvius said architecture must have: *utilitas* (functionality), *firmitas* (structure and stability), *venustas* (aesthetics/beauty).

F16



48-400/500
Scott Smith
M/W/F 1.30-4.20pm

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*Mona Hatoum
Hot Spot III 2009
Photo: Agostino Osio*



S17



48-519 Thesis/IP
Mary-Lou Arscott
MWF 1.30-4.20pm

T i m b e r

Robotic Wood Construction

*Prerequisites:
Students interested
in working in the
robot lab for studio or
independent thesis
projects need to take
Intro to Architectural
Robotics 48-555 prior
to or in conjunction
with Timber Studio.*



INTRODUCTION

Timber: Augmented Wood Construction forefronts the need for resourcefulness in contemporary architectural practice. The course positions a renewed interest in wood construction (an ecologically sane material appropriate for many building types) relative to emerging technologies in robotically assisted fabrication. As designers recoup this traditional building material emerging digital technologies are poised to re-frame the what, why, and how of timber construction. In particular the course will investigate robotic steam bending, where a robot's ability to shape custom framing members and assemble unique parts, is leveraged to construct complex material arrays. Labs, Lectures, and design projects will emphasize tactile investigation, building at one to one, and introduce the fundamentals of robotic motion and tooling protocol.

STUDIOTHEMES

Resource: Contemporary architectural design is in a constant state of techno-flux. The means and methods of contemporary architectural production face mounting ecological imperatives. **Dexterity:** perhaps the architect's most valuable resource.

Imperfection: The use of natural material always entails reckoning with irregularities. Imperfection forces a loss of control (on the part of the designer) that standardized industrial building materials tend to eradicate, favoring instead predictable behavior. Timber asks students to consider material imperfection as an inherent and generative part of the design process.

Tectonics: This studio biases the careful articulation of the architectural frame. Here the frame conditions space, encourages structural performance, and articulates the part(s) to the whole through considered detailing.

Deformation: Steam bending natural hardwoods produces complex forms without wasteful subtraction of material or the addition of toxic adhesives. The technique also suggests exciting architectural possibilities for large span structures through bending active systems.

Software: Students should be familiar with Grasshopper and some programming experience is helpful, but don't let inexperience with computational tools deter you. If you are a designer who likes to explore through making you will pick up the rest.

COURSE STRUCTURE

Timber will promote critical design inquiry through a combination of hands-on material testing and applied robotic experimentation. The first third of the semester will be comprised of focused design exercises which scaffold toward a design proposal during the remainder of the semester.

S17



48-405/505 Timber Studio
Joshua Bard
W/F + 12:30 - 4:20

T i m b e r



Students from the Spring 2015 semester inspect a piece of robotically steam bent white oak. Students developed custom tooling and robot motion control to design steam bent trusses.

INDUSTRY PARTNERS

For the past two years, Timber Studio has partnered with professionals in the wood harvesting and construction industries. Our partners furnish material and technical advice. In studio workshops have been run by Bensonwood's head designer and CMU alum, Randall Walter.

Timbertrails: Founder, John Scheafnocker sustainably harvests lumber from his 30 acre tree farm to provide regionally grown building materials.

Bensonwood Homes: Bensonwood has re-purposed traditional timber framing techniques using a combination of material craft, and innovative CNC technology. The company is constantly looking for ways to champion wood construction in contemporary building practice.

STUDIO PROJECTS

Project 1: Bend

P1.1: Analogue Bend > construct a material array of 20 steam bent members by hand.

P2.2: Robotic Bend > Construct a material array of 20 robotically steam bent members.

Project 2: Span

P2.1: Modular System > At model scale, build a lightweight truss structure that can span 3' and support 25lbs.

P2.2: Parametric System > further develop your truss system using parametric modeling.

Project 3: 1 to 1

Construct a physical prototype that incorporates at least 5 modules from the span project at full-scale using robotic steam bending. Each team should develop a custom robotic work-cell with end of arm tools and custom fixtures for bending.

S17



48-405/505 Timber Studio
Joshua Bard
W/F + 12:30 - 4:20

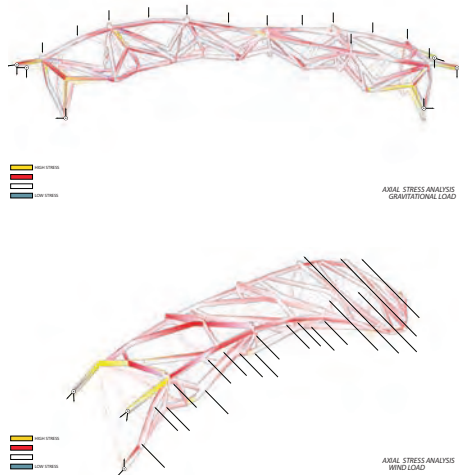
T i m b e r

Spring 2016 Students designed and fabricated a full-scale prototype of a bent wood trellis. The studio also participated in the ACSA Timber in the City competition.



LEARNING OBJECTIVES

- You can test ideas at full scale using material affordance to inform your design process.
- You can program, simulate, and execute basic robot paths.
- You can design and implement custom end of arm tools for fabrication.
- In addition to compelling representation, you can leverage digital tools to construct physical artifacts.
- You can leverage parametric work-flows to efficiently manage complex fabrication tasks
- You can detail basic timber frame construction.
- You will demonstrate ability in the following **NAAB SPC Criteria**: A.5,A.7,A.8, A.9, A.11, B.9, B.12, C.1.



Structural analysis of a steam bent timber truss conducted by Spring 15 students using Grasshopper.

S17



48-405/505 Timber Studio
Joshua Bard
W/F + 12:30 - 4:20

MIES RECONSIDERED

Architecture to Detail / Detail to Architecture

This studio examines the role of the architectural detail in the formation/ thematic development of a work of architecture and how the detail reinforces the theoretical position of the architect.

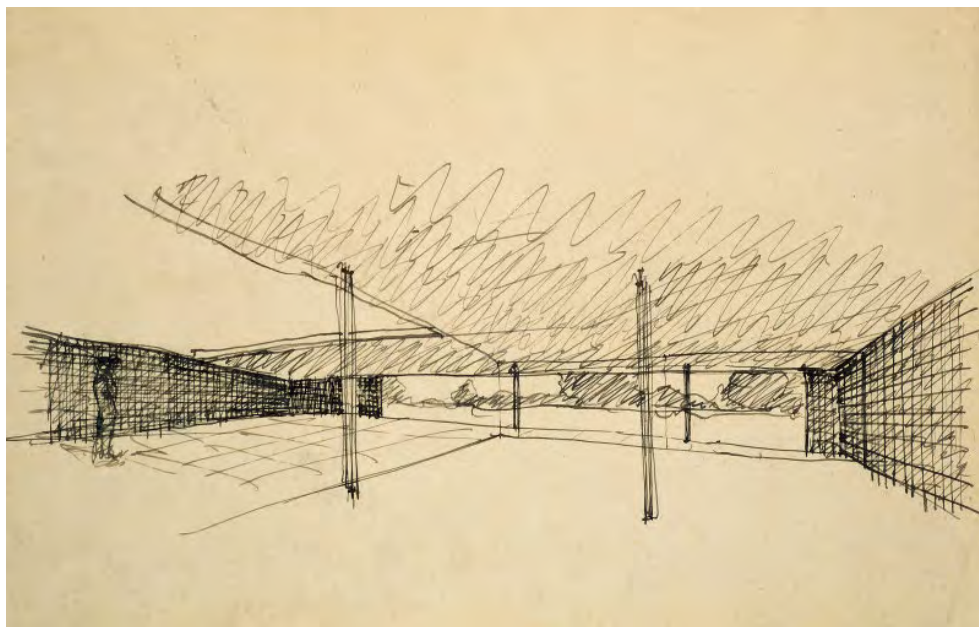
Architectural detailing is often considered only a technical task, but, in fact, the detail holds the key to inspire, integrate and reinforce the architectural idea as well as the architect's intellectual/ societal position. Many have avoided the detail as a snapshot into the design methodology of architecture. This studio is an attempt to do the opposite. The studio will be comprised of a series of weekly lectures, short readings and assigned intense graphic

representations to reveal how the role of detail has played an essential role in the history, evolution and development of the built environment. The studio project will attempt to reconsider the role of steel in contemporary construction.

The site presently being considered is adjacent to the Richard King Mellon Hall of Science at Duquesne University by Ludwig Mies van der Rohe, 1968.

The program will be a track & field / student housing facility.

Research: A study of the tectonic qualities of Mies van der Rohe will be part of this class as well as research of advanced steel construction techniques.



*Court House Study:
Interior Views Showing
Steel Columns,
Ludwig Mies van der
Rohe 1931-38*

S17



48-405/505
Gerard Damiani
MF 12.00-4.20pm

Cultural Inclusivity

The Spring 2017 Urban Design Build Studio (UDBS) will continue work, and expand research on culture and inclusivity in Public Interest Design (PID) initiated in the Fall of 2016. Projects will focus on addressing issues related to two fundamental human needs: 1) Access to Food, and 2) Shelter. With 16,200 people identified as homeless in Western Pennsylvania, socio-economic inclusivity presents an immediate regional challenge. More than 13,000 of those homeless are children receiving state services through the public school system. These statistics affirm that homelessness affects not only

individuals, but entire families. Left unaddressed, consequence becomes multi-generational. While circumstantial factors vary, homelessness most frequently occurs when people or households are unable to acquire or maintain housing they can afford. As a result, homeless populations often concentrate where the barrier to affordable housing is lowest, in economically challenged communities deprived of services and resources – including healthy food. This is the nexus where issues of nutrition, health, and homelessness intersect.



S17



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

Cultural Inclusivity

This Public Interest Design (PID)

Studio will focus on the rolls that pre-fabrication and manufacturing can play in positively influencing a trajectory toward inclusivity in housing for the homeless and access to food. Working for/with the non-profit organization, Operation Safety Net, the UDDBS will develop proposals and prototypes for two projects that address these challenges: 1) a low economic barrier housing/shelter prototype that can be provided as a transitional living space for homeless populations, and 2) a mobile food cart prototype. These projects will target multiple populations including homeless families, minority entrepreneurs, and urban food providers. An emphasis will be placed on the design of appropriate, efficient, replicable prototypes that can be mass-produced at scale through UDDBS joint venture in PROJECT RE_. With these articulated aspirations, the CONSTRUCTING INCLUSIVITY studio will strive to provide excluded and marginalized populations with necessities fundamental to human dignity.

Continuing collaboration with IDeATe, and related body of work, development of projects will be informed by Reality Computing. Predicated on the concept of Capture, Compute, Create - Reality Computing relies on the digital capture of physical information, the creation of physical experiences through digital translation, and the making of higher impact/performance end products with the output. The implementation of Reality Computing applications in the development of projects will be facilitated through collaboration with an interdisciplinary team of graduate and undergraduate students in the IDeATe program. The UDDBS/IDeATe collaboration will leverage capacity, enhance processes/digital workflows, and increase social impact through the use of Reality Computing.

The studio will employ a constellation of technologies focused around capturing reality (laser scanning, motion capture, photogrammetry), working with spatial data (CAD, physical modeling, simulation), and using data to interact with and influence the physical world (augmented / virtual reality, projector systems, 3d printing, robotics). Work will be both projective and practical.

S17



48-405/505 UDDBS
John Folan
M/W 12.30-4.20pm

Cultural Inclusivity

The CONSTRUCTING INCLUSIVITY studio is a component of a broader Public Interest Design (PID) continuum established by the UDBS and PROJECT RE_. This studio provides a pre-text for the Summer 2017 UDBS Paid Internship and subsequent UDBS offerings during the 2017/2018 academic year. Skill sets and sensibilities developed in each UDBS ASOS and Co-requisite courses are intended to inform subsequent studios. The structure is designed to enable students to progress through a sequence of Public Interest Studios as a focus, or participate in individual studios electively. UDBS summer internships are reserved for students who have completed Urban Design Build Studios, and are offered based on demonstrated ability to accept responsibility.

Work will be executed with Operation Safety Net, a non-profit organization with the mission of providing access to health care, hope, and dignity.

The studio will meet Mondays and Wednesdays from 12:30PM to 4:20PM. Students enrolled in the Urban Design Build Studio (UDBS) CULTURAL INCLUSIVITY Studio are required to enroll in 48_521, BEYOND PATRONAGE (9-12CU Flex).

BEYOND PATRONAGE will meet on Fridays from 12:30PM to 4:30PM.

Wednesdays will be utilized for collaboration with IDEATe in the Collaborative Making Center, Hunt Library.

This studio is generously funded by Autodesk, the Heinz Endowments, and the Urban Redevelopment Authority of Pittsburgh (URA). All construction work will be done in collaboration with the Trade Institute of Pittsburgh (TIP) and Construction Junction (CJ). Students will work shoulder to shoulder with populations representing the communities where the UDBS practices.

S17



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

Cultural Inclusivity

CONTEXT:

The UDBS is a Public Interest Design (PID) entity. Each individual enrolling in this studio recognizes that work is executed in communities, with residents served by the Urban Design Build Studio (UDBS). With the enormous privilege that this opportunity provides comes responsibility. Work is done for clients with unmet needs, working to budget and schedule demands required to meet their needs. Students are expected to be present for all client meetings and participatory design sessions. While every effort will be made to schedule community/client meetings during class time, client need/schedules will determine times outside of scheduled class. By enrolling in the Urban Design Build Studio (UDBS), students understand and acknowledge that there are risks in travelling to and from work sites, meeting locations, and other studio related destinations visited regularly throughout the course of the semester.

Students acknowledge that they understand PROJECT RE_, the primary work and fabrication space utilized by the Urban Design Build Studio (UDBS), is an off-campus facility. The space at PROJECT RE_ is utilized as needed and students are responsible for their own transportation to and from the facility. UDBS work includes physical labor and requires the utilization of construction tools/equipment that may cause bodily injury. Students acknowledge that they understand the risks associated with using the tools and do so of their own volition. The Urban Design Build Studio (UDBS) collaborates with organizations include individuals with previous legal violations and/or incarceration. The Trade Institute of Pittsburgh (TIP), a partner in PROJECT RE_, focuses its apprentice training on individuals re-entering society post incarceration. Students enrolling in this studio acknowledge that they understand the working conditions and have elected to participate in the studio of individual volition.

S17



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

EPHEMERAL & ENDURING

Performance + Architecture

Festival d'Avignon New Temporary & Permanent Theaters

The Festival d'Avignon is one of the most important contemporary performing arts events in the world, transforming the city's architectural patrimony into a wide variety of historic, surprising and awe-inspiring performance venues for tens of thousands of patrons. This project envisions two purpose-built performance venues occupying the same site: a temporary venue for dance performance for 2017 and a permanent flexible venue for a variety of performance types.

ASOS students will collaborate with Drama and Masters of Arts Management (MAM) students to study & design a new seasonal and permanent theater for the Festival d'Avignon. We will meet with festival directors, the professional design team working on the real project and work directly with

famed French theater designer Jean-Guy Lecat. During the first third of the semester inter-disciplinary teams of Architecture, Drama & MAM students will conceptualize & design the seasonal summer venue, further development of which will be done by professional architecture & engineering partners in France. During the remainder of the semester Architecture students will conceive individual designs for the permanent theater in collaboration with the Drama and MAM students.

This studio will emphasize the use of hand sketching, physical models and iteration of design at varying scales and degrees of resolution. Students must also expand their mastery of digital and parametric tools for both analysis and conceptual/morphological design development.



*Festival d'Avignon -
La FabricA, "Orlando
ou l'Impatience" by
Olivier Py © Christophe
Raynaud de Lage*

S17



48-405/505
Hal Hayes
Time/day TBD

EPHEMERAL & ENDURING

Performance + Architecture

This studio is part of the Theater Architecture concentration, and is the result of a direct invitation to participate in this real project from M. Lecat & the Festival d'Avignon.

Co-Requisites; (co-taught by Hal Hayes & Dick Block, Drama Assoc. Head & Scenic Design Professor)

Theater Architecture I, 62:408 - Mini 3, (6 units)

Theater Architecture II, 62:418 - Mini 4 (3 units)

Other Related Course

Architectural Lighting, 48:587 (9 units), Professor Cynthia Limauro

Funding:

SoA Altenhof Scholarships for students with unmet financial need

CMU Crowdfunding opportunity

Additional Faculty:

Cynthia Limauro (Professor of Lighting, CMU School of Drama & SoA)

Kathryn Heidemann (Heinz College Assoc. Head & Arts Management Prog.)



*Festival D'Avignon
Dance 2015*

S17



48-405/505
Hal Hayes
Time/day TBD

EPHEMERAL & ENDURING

Performance + Architecture

TRAVEL ITINERARY

Optional Early Arrival: Marseille/Aix-en-Provence/Nîmes Excursion

- W 01/04 Afternoon: Fly to London (overnight)
R 01/05 Morning: Fly London/Marseille, [Unité d'Habitation](#)
Marseille Afternoon: [Musée des Civilisations d'Europe](#)
Aix Evening: Train Marseille/Aix-en-Provence
F 01/06 Morning: [Fondation Vasarely](#)
Aix Afternoon: [Chateau La Coste](#)
Evening: [Ballet Preljocaj-Pavilion Noir](#)
S 01/07 Morning: Bus to [Carrières de Lumières](#)
Avignon Afternoon: Bus to Avignon
Studio Project Site/île Piot
Evening: [Historic Centre of Avignon](#)
D 01/08 Morning: [Pont du Gard](#) (Kline Studio departs)
Nîmes Afternoon: Nîmes; [Les Arènes de Nîmes](#),
Avignon [La Maison Carrée](#), [Carrée d'Art](#), [Nemausus](#)
Evening: Train Nîmes/Avignon

Basic Itinerary

- S 01/07 Afternoon: Fly to London (overnight)
D 01/08 Morning: Fly London/Marseille
Avignon Afternoon: Train Marseilles/Avignon
Evening: [Historic Centre of Avignon](#)
M 01/09 Morning: Project Briefing, [Jean Guy Lecat](#)
Avignon Afternoon: Studio Project Site/île Piot
Evening: [Restaurant La Treille Avignon](#)
T 01/10 Morning: [Palais des Papes](#)
Avignon Afternoon: [Archives L'Avignon du Festival](#)
Evening: [Théâtre du Chêne Noir](#)
W 01/11 Morning: Train Avignon/Paris
Paris Afternoon: [Théâtre des Bouffes du Nord](#)
Evening: [Louvre](#) or [Centre Pompidou](#)
R 01/12 Morning: [Cite de l'Architecture](#)
Paris Afternoon: [Odéon - Théâtre de l'Europe](#)
Train, Paris/London
London Evening: Dinner w/ Kline Studio
F 01/13 Morning: Office Visit(s)
London Afternoon: London Studio Sites Visit
Evening: Dinner & Theater
S 01/14 Morning: [South Bank Centre](#)
London Afternoon: Matinee Performance
Evening: Cabaret
D 01/15 Morning: [The Barbican](#)
London Afternoon: London City Walking Tour
Evening: Theater
M 01/16 Fly to Pittsburgh

*Unité d'Habitation
Le Corbusier 1952*



S17



48-405/505
Hal Hayes
Time/day TBD

EPHEMERAL & ENDURING

Performance + Architecture



Avignon

TRAVEL BUDGET

Basic Itinerary

| | | |
|-------------------------|--|----------------|
| Airfare | Pittsburgh/NYC Round Trip, 1/7-16 | \$250 |
| | NYC/London Round Trip, 1/7-16 | \$600 |
| | London/Marseille, 1/6 or 1/8 | \$50 |
| Railfare | Marseille/Avignon, 1/6 or 1/8 | \$20 |
| | Avignon/Paris, 1/11 | \$35 |
| | Paris/London, 1/12 | \$75 |
| Performance Tkts | 1/12-15 (3 performances @ \$50/performance/person) | \$150 |
| Accommodations | Avignon, 1/8-11 (3 nights @ \$30/person/night) | \$90 |
| | Paris, 1/11-12 (1 night @ \$50/person/night) | \$50 |
| | London, 1/12-16 (4 nights @ \$50/person/night) | \$200 |
| Local Travel | 1/8-16 (9 days @ \$10/day/person) | \$90 |
| Meals | 1/8-16 (9 days @ \$50/day/person) | \$450 |
| Incidentals | 1/8-16 (9 days @ \$10/day/person) | + \$90 |
| | TOTAL | \$2,150 |

Optional Early Arrival: Marseille/Aix-en-Provence/Nîmes Excursion

| | | |
|-----------------------|--|--------------|
| Accommodations | Avignon 1/5-8 (3 nights @ \$30/person/night) | \$90 |
| Local Travel | 1/5-7 (3 days @ \$10/day/person) | \$30 |
| Meals | 1/5-7 (3 days @ \$50/day/person) | \$150 |
| Incidentals | 1/7-16 (3 days @ \$10/day/person) | + \$30 |
| | ADD | \$300 |

S17



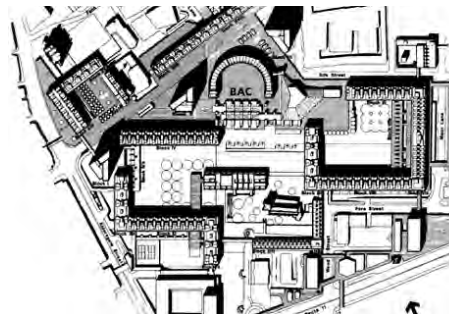
48-405/505
Hal Hayes
Time/day TBD

HOUSING ARCHIPELAGO

London Speculations of Density

FALL & SPRING LONDON STUDIOS

This pair of studios will explore the physical challenges and socio-economic terms for densifying London, a city where the dynamics of globalized market forces are threatening to overwhelm the public interest, or as Rowan Moore puts it: "liquefying the city into profit." Through linked but very different projects, the two studios will explore how architecture and urbanism can reassert the public interest through projects that address large scale issues of housing supply and affordability, and public realm quality and accessibility.



"The islands of the archipelago, on the other hand, confront the forces of urbanization by opposing to urbanization's ubiquitous power their explicitness as forms, as punctual, circumscribed facts, as stoppages."

- Pier Vittorio Aureli

HOUSING ARCHIPELAGO

The studio will explore what forms a new regime of equitable housing interventions might take to meet the needs of twenty-first century London by looking at a range of infill sites, infrastructures and typologies across the city. A required trip to London in January 2017 will kickoff the studio.

The studio will build on current planning and policy documents that document the housing crisis and identify potential strategies and infill sites. However, it will diverge from the current political and economic trend of neoliberal privatization and disinvestment of publicly funded affordable housing, and propose a reinvigorated public role in the creation of large-scale permanently

affordable housing and open space. This speculative policy fiction will form the basis of series of housing focused architectural and urban design interventions around London that investigate how different types of urban conditions in the city could be densified through the addition of new housing. Students will work as a single team to research the policy issues surrounding housing, explore a range of housing precedents, and then develop an overarching strategy for densification. Working as individuals or teams of two students will then take on an individual site and typological strategy to produce a housing focused architecture and urban design intervention.

Precedent:

A utopian moment in the city -The Barbican Estate, Chamberlin, Powell and Bon.

Inspiration - Cities within a city:

Opposite: O.M. Ungers, Berlin: A Green Archipelago (top) and Competition proposal for Roosevelt Island (bottom).



HOUSING ARCHIPELAGO

London Speculations of Density

PROJECT TYPE

Architecture as City Making

300-400 units of housing + support program

Focus on integrating affordable housing into the existing city, including explorations of managing density, integrating communal space, and combining diverse household types and sizes

3-4 complex infill sites to choose from, including possibly Bishopsgate Goodsynd

Projects could be resolved as multiple low to midrise buildings, but some strategies might utilize towers

Project will also include the design of new public spaces and connections

Projects will be expected to create a piece of city, while also reaching a detailed architectural resolution

Reading and discussion of a range of theoretical ideas exploring social and political drivers for architectural form, the relationship between city and building, and emerging roles of housing in contemporary life. We will draw from a range of authors including Aldo Rossi, O.M. Ungers, Rem Koolhaas, Pier Vittorio Aureli, and others.

SCHEDULE OVERVIEW

Trip 8-11 days - January

Phase 1: three weeks
Shared group research work on housing crisis, residential typologies, affordable housing, site analysis & base materials

Phase 2: ten weeks
Conceptual Design - teams of 1-2 people choose one of the sites and develop a project based on a program shared across the studio

Phase 3: two weeks
Group big picture summary & final documentation: book and or exhibit integrating work from fall studio

HOUSING ARCHIPELAGEO

London Speculations of Density

LONDON STUDIOTRIP

Two Parts: Required London Portion + Optional Southern France Excursion

France Excursion (optional):

Marseille, Aix en Provence & Avignon

Thursday January 5th - Saturday January 7th

Fly to Marseille

- Wed. 1/4: Morning: Arrive Marseille
- Thur. 1/5: Afternoon: Unité d'Habitation, le Corbusier
Evening: Train Marseille-Aix en Provence
Morning: Fondation Vasarely
- Fri. 1/6: Afternoon: Chateau La Coste
Evening: Train to Avignon
Morning: Studio Hayes Studio Site Visit
- Sat. 1/7: Afternoon/Evening: Walking tour of Historic Centre of Avignon

London Trip:

Sunday January 8th - Monday January 16th (classes start Tuesday Jan. 17th)

- Sat. 1/7: Fly to London (for those joining for London only)
- Sun. 1/8: Day: Train Avignon to London
Evening: Group Rendezvous, Dinner in Shoreditch
- Mon. 1/9: Morning: Walking tour Bishopsgate Goodsynd & Surroundings
Afternoon: Walking tour Spring Studio Sites
- Tue. 1/10: Morning: Walking tour Spring Studio Sites
Afternoon: Walking Tour Key London Housing Projects
- Wed. 1/11: Morning: Walking Tour Key London Housing Projects
Afternoon: Visit Kings Cross Redevelopment
- Thur. 1/12: Morning: St Paul's Cathedral - Christopher Wren
Afternoon: Walking Tour Central London
Evening: Dinner w/ Hayes Studio
- Fri. 1/13: Morning & Afternoon: London Sites Visit & Firm Visit
Evening: Dinner & Theater
- Sat. 1/14: Morning: South Bank Centre Tour
Afternoon: Tate Modern - Herzog de Meuron
Evening: Cabaret
- Sun. 1/15: Morning: The Barbican Estate - Chamberlin, Powell and Bon
Afternoon: London City Walking Tour - City
Evening: Theater
- Mon. 1/16: 1/16th: Return flight to Pittsburgh

STUDIO STEAMbox

Architects as Inventors of a New Building Type



Architects have the ability to transform science, math, and technology education. Kinetic, project-based learning is second nature to architects and critically needs to become integral with school design for tomorrow. More specifically, yesterday's traditional K-12 STEM education, divided into math, physics, biology and chemistry, needs to be recast into hands-on learning focused on global challenges and opportunities – energy, food, water, materials, health, robotics, as well as art and play. The most innovative approaches to sustainability – biomimicry, biophilia, living buildings, buildings that teach – provide a roadmap for the future of STEM education in the US, and an avenue for architects to test entrepreneurship as a roadmap to future projects.

In this studio, students will work collaboratively to vision an appropriate building program for a stand-alone K-12 STEAMbox for science, technology, engineering, art and math education, gathering technologies and systems that could create a building that is an irreplaceable textbook for technical education in America. Working with a site on Fifth Avenue in Pittsburgh, students will then focus individually or in teams of two on a new prototype 25,000 sqft STEM building that could transform secondary education. The STEAMbox will turn traditional learning by disciplines on its head, offering hands-on learning and discovery with the building as a laboratory for both understanding and invention to address global needs in energy, food, water, materials, health, and robotics.

S17



48-405/505
Vivian Loftness
Time/day TBD

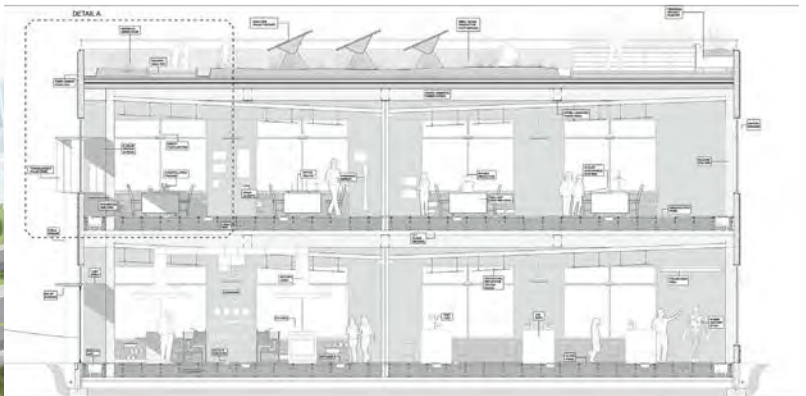
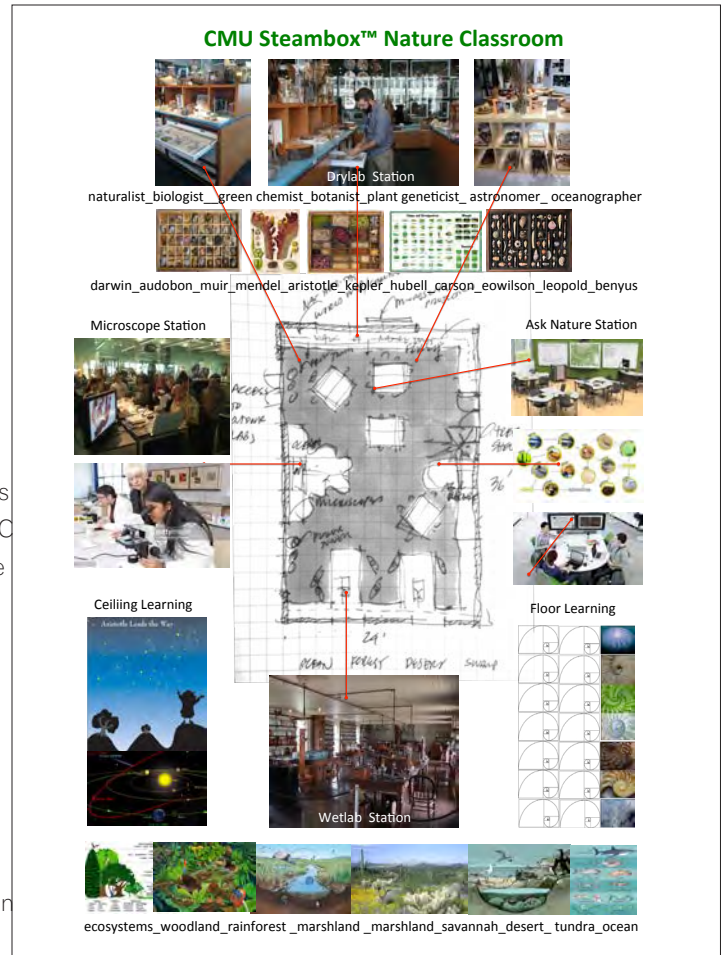
STUDIO STEAMbox

Architects as Inventors of a New Building Type

A series of exercises will support the integration of dynamic learning tools and sustainable building systems as a generator of architectural placemaking and detailing - critical to the ultimate success of a project.

These exercises will explore structure and enclosure modularity and innovations for sustainability; interior space design innovations including biomimicry and biophilia; vertical transportation, egress and core design for sustainability; HVAC and lighting innovations; and innovative food, water and waste management strategies including landscape.

Sustainability demands more than the aesthetic integration of renewable energy, and should inspire new formal and organizational designs, with daily and seasonal dynamics in architectural expression, and the visionary integration of site and community



Harris Mazur, Kwanpo Chang & Kevin Hyun

S17



48-405/505
Vivian Loftness
Time/day TBD

STUDIO STEAMbox

Architects as Inventors of a New Building Type

STEAMbox Programming & Visioning:

The Next Generation in STEM plus Robotics, Art and Play Education

Precedent Studies of Living Labs,

Building as Teaching Tool, Science Museums

Context-driven Siting & Massing

Pillars of Structure, Light and Circulation

as Form Generators and Curriculum, Modularity and Form, Clarity, Codes and Delight

Pillars of Heating, Cooling, and Air

as Form Generators, Finish, and Curriculum

Passive and Active Technologies & Controls

Dynamic Enclosures for Energy, Air, Light, Heat, Water – Curricular Innovation

Passive and Active indoor-outdoor living

The Sands of Shared Spaces for Sustainability and Education

Interior layouts, fixtures and finishes for sustainability

The Sands of Class Room Interiors for Sustainability and Education

Interior layouts, fixtures and finishes for sustainability

Detailing for Sustainability and

Curriculum: Biophilia, Biomimicry, Invention & Play

Energy, Food, Water, Materials, Health, Nature

Regenerative Landscapes as Place

Makers and Curriculum: the Zen of water and landscape.



CH2 Building, Melbourne, Australia

S17



48-405/505
Vivian Loftness
Time/day TBD

HOUSING ARCHIPELAGEO

London Speculations of Density

LONDON STUDIOTRIP - STUDENT BUDGET ESTIMATE

ASOS F16 London Trip

Jan 4th - Jan 16 2017

Student Budget Estimate

There is a base trip plus an optional add-on France excursion
High and low estimates vary by plane ticket cost

| Base London Trip Student Expense Estimate: | | | | Dollars |
|---|-------------------------------|--------|------------|--------------------|
| Transportation | | People | Cost | |
| | Flight - High | 1 | \$1,300.00 | \$1,300.00 |
| | Flight Low | 1 | \$600.00 | \$600.00 |
| | 7 day Transit Passes | 1 | \$50.00 | \$50.00 |
| | | Days | Costs | |
| Lodging | Hotel London | 8 | \$50.00 | \$400.00 |
| Meals | Daily Allowance | 9 | \$50.00 | \$450.00 |
| Admissions | | Number | Cost | |
| | St Pauls | 1 | \$17.50 | \$17.50 |
| | Barbican Estate | 1 | \$14.50 | \$14.50 |
| | Theater Performances | 3 | \$50.00 | \$150.00 |
| | | Days | | |
| Incidentals | Daily Allowance | 9 | \$10.00 | \$90.00 |
| London Estiamte Low | | | | \$1,772.00 |
| 10 % Contingency | | | | \$177.20 |
| Estimate with Contingency | | | | \$1,949.20 |
| London Estimate High | | | | \$2,472.00 |
| 10 % Contingency | | | | \$247.20 |
| Estimate with Contingency | | | | \$2,719.20 |
| France Excursion Student Expense Estimate: | | | | Dollars |
| | | | | (grey is estimate) |
| Transportation | | People | Cost | |
| | Train to Marseille to Avignon | 1 | \$25.00 | \$25.00 |
| | Train Avignon to London | 1 | \$75.00 | \$75.00 |
| | Transit | 1 | \$30.00 | \$30.00 |
| | | Days | Costs | |
| Lodging | Hotel Avignon | 3 | \$30.00 | \$90.00 |
| Meals | Daily Allowance | 3 | \$50.00 | \$150.00 |
| Admissions | | Number | Cost | |
| | Unite d'Habitation | 1 | \$11.00 | \$11.00 |
| | Nimes Carre d'Art | 1 | \$5.00 | \$5.00 |
| | | Days | | |
| Incidentals | Daily Allowance | 3 | \$10.00 | \$30.00 |
| France Add Estiamte | | | | \$416.00 |
| 10 % Contingency | | | | \$41.60 |
| Estimate with Contingency | | | | \$457.60 |
| Combined Student Expense Estimate: | | | | Dollars |
| Low | | | | \$2,406.80 |
| High | | | | \$3,176.80 |

PROTO-TYPE

Prototyping the process

This studio, which includes students in the MAAD and BArch programs, will investigate the role of physical artifacts as models, machines, and prototypes within the design process. Particular attention will be placed upon architectural envelopes as spatial, performative, representational and political elements.

The studio will meet in the CFA studios on Mondays and Fridays from 1:30 – 4:20 and in dFAB on Wednesdays from 1:30 – 4:20. These Wednesday meetings will provide opportunities for digital fabrication and material processing workshops and general workshop time to develop models and prototypes.



As an architect you scribe your tales into the sand of the earth and the language of materials. In the beginning you meet materials as a challenge. You try with all your power. You force it. But the significant architects develop a dialog with materials. -Sverre Fehn

*Norwegian Glacier Museum, Fjaerland
1991-2002*

F17



48-400/500 Studio
Jeremy Ficca
MWF + 1:30 - 4:20PM

Deconstructing Blight

The 2017/2018 Urban Design Build Studio (UDBS) will explore the relationship between built infrastructure, policy, and alternative constructive action through Public Interest Design (PID). The FALL 2017 Urban Design Build Studio (UDBS), DECONSTRUCTING BLIGHT, will utilize the city of Pittsburgh's register of condemned buildings to assess tactical deconstruction strategies, upcycled material processes, and the elimination of blight. Addressing dramatic shifts in regional housing needs that have precipitated over the past 50 years, the UDBS will work with neighborhood partners and NGO's on developing viable urban housing strategies that

can continue to evolve as the population and housing stock age. With over 52% of housing that constitutes the built landscape in Pittsburgh having been constructed before 1939, tidal shifts in population have caused much of that housing to remain vacant and/or in a state of substantial disrepair. While development has accelerated in certain areas of the city, several Pittsburgh neighborhoods rank amongst the most vacant in the country. Those neighborhoods can benefit from the development of appropriate, alternative housing strategies predicated on lower density.



F17



48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Deconstructing Blight

As a municipality, Pittsburgh has recognized the need for lower density strategies, widely investing in demolition as a solution to blight. In the five-year period between 2010 and 2015, 2,519 properties were demolished by the city. While creating an opportunity for future, alternative development strategies, the act of demolition has numerous negative consequences. It erodes sense of place, communicates a devaluation of generational culture, creates enormous stress on the environment, and creates expensive landfill maintenance burdens on municipalities. Most of the material that makes its way to landfill is not approaching the end of its useful lifespan and could be re-integrated into new construction.

Deconstruction is a socially, economically, and environmentally beneficial alternative to demolition. It is the systematic process of dismantling a structure or its parts to salvage and harvest the components for reusing and/or recycling. Deconstruction converts reclaimed materials to commodities of maximum value. Value is both monetary and phenomenological, strongly maintaining constancy with place. In contrast, demolition is predicated on the simple act of destruction to remove waste. Beyond creating value deconstruction promotes closed loop consumerism, reduces both financial and environmental stresses of maintaining landfills, and has the additional benefit of job creation.

Over the course of the semester, the UDBS will analyze built landscapes, analyze natural landscapes, gain intimate knowledge of deconstruction processes, identify material inventories/supply chains, and collaborate with partners/stakeholders on the development of potential project strategies. To achieve these objectives, the studio will 1) work closely with the PROJECT RE_ Deconstruction crew on the dissection/dismantling of a condemned structure to gain nuanced understanding of processes through experience; 2) extend the research partnership with IDeATe utilizing Reality Computing applications to catalogue existing vacant structures, visualize transformed landscapes, and determine viability of material for harvesting; 3) utilize Reality Computing applications for the inventorying of material for up-cycle construction at mass scale, and 4) design, develop, and prototype full-scale material assemblies for the integration into RE_CON housing prototypes.

F17

48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Deconstructing Blight

The DECONSTRUCTING BLIGHT studio is a component of a broader Public Interest Design continuum established by the UDBS and PROJECT RE_. This studio provides a pre-text for work in the Spring 2018 UDBS ASOS, RECONSTRUCTING AUTHENTICITY, and subsequent Summer 2018 UDBS Paid Internship. Skill sets and sensibilities developed in each UDBS ASOS and Co-requisite courses are intended to inform subsequent studios.

The structure is designed to enable students to progress through a sequence of Public Interest Studios as a focus, or participate in individual studios electively. UDBS summer internships are reserved for students who have completed Urban Design Build Studios, and are offered based on demonstrated ability to accept responsibility.

The studio will meet Mondays and Wednesdays from 12:30PM to 4:20PM. Students enrolled in the Urban Design Build Studio (UDBSDECONSTRUCTING BLIGHT Studio) are required to enroll in 48_522, SCALING CHANGE (9-12CU Flex).

SCALING CHANGE will meet on Fridays from 12:30PM to 4:30PM.

Wednesdays will be utilized for collaboration with IDeATe in the Collaborative Making Center, Hunt Library.

This studio is generously funded by Autodesk, the Heinz Endowments, and the Urban Redevelopment Authority of Pittsburgh (URA). All construction work will be done in collaboration with the Trade Institute of Pittsburgh (TIP) and Construction Junction (CJ). Students will work shoulder to shoulder with populations representing the communities where the UDBS practices.

F17



48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

Deconstructing Blight

CONTEXT:

The UDBS is a Public Interest Design (PID) entity. Each individual enrolling in this studio recognizes that work is executed in communities, with residents served by the Urban Design Build Studio (UDBS). With the enormous privilege that this opportunity provides comes responsibility. Work is done for clients with unmet needs, working to budget and schedule demands required to meet their needs. Students are expected to be present for all client meetings and participatory design sessions. While every effort will be made to schedule community/client meetings during class time, client need/schedules will determine times outside of scheduled class. By enrolling in the Urban Design Build Studio (UDBS), students understand and acknowledge that there are risks in travelling to and from work sites, meeting locations, and other studio related destinations visited regularly throughout the course of the semester.

Students acknowledge that they understand PROJECT RE_, the primary work and fabrication space utilized by the Urban Design Build Studio (UDBS), is an off-campus facility. The space at PROJECT RE_ is utilized as needed and students are responsible for their own transportation to and from the facility. UDBS work includes physical labor and requires the utilization of construction tools/equipment that may cause bodily injury. Students acknowledge that they understand the risks associated with using the tools and do so of their own volition. The Urban Design Build Studio (UDBS) collaborates with organizations include individuals with previous legal violations and/or incarceration. The Trade Institute of Pittsburgh (TIP), a partner in PROJECT RE_, focuses its apprentice training on individuals re-entering society post incarceration. Students enrolling in this studio acknowledge that they understand the working conditions and have elected to participate in the studio of individual volition.

F17



48-400/500 UDBS
John Folan
M/W 12.30-4.20pm

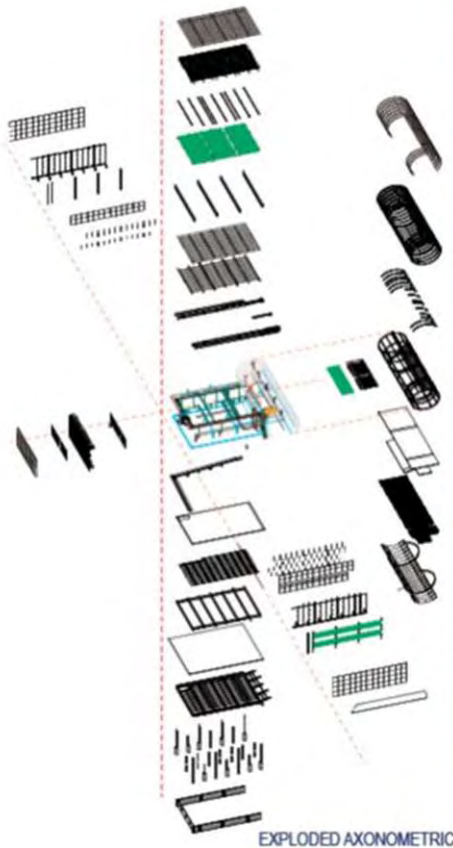
FROZEN MUSIC

The Architecture of Movement

LaGuardia Airport New Central Terminal Complex

This studio project will closely parallel the real project currently being designed for the replacement of New York LaGuardia Airport's Central Terminal. Students will test and expand their design and technical skills in all key areas, with particular focus on exploring the rich and varied conceptual design opportunities arising from architectural, structural, infrastructural and mechanical systems at very large scale and with a high degree of complexity.

Students will also define the complete design challenge through research and analysis of the building typology; the exceptionally dynamic functional rhythms, complex programmatic spaces with distinct systems, and a widely diverse user group with varying needs and desires, embracing and understanding the duality of the design paradigm, as a principal anchor and integral component of a global transport and communication network, yet with a need to be responsive to local environment, materials & methods, and cultural traditions.



JFK Jake Douenias

F17



48-400/500
Hal Hayes
time TBD

FROZEN MUSIC

The Architecture of Movement

LaGuardia Airport New Central Terminal Complex

Students will engage as teams during the first four weeks of the semester in a robust pre-design exercise analyzing the existing building and site conditions, engaging with the professional AE design team working on the actual project, and developing programmatic and performative goals and objectives. During the remainder of the semester students will pursue an individual concept design for the project based on these complex design parameters, learning design and planning methodologies to effectively address complex projects, balancing the needs of these parameters as an interdependent network of autonomous systems.

This studio will emphasize the use of hand sketching, physical models and iteration of design, research and analysis at varying scales and degrees of resolution. Students must also expand their mastery of digital and parametric tools for both analysis and conceptual/morphological design development.

F17



48-400/500
Hal Hayes
time TBD

INFRASTRUCTURE STUDIO

Forces Underlying Urban Form

INFRAstructure studio prepares future architects to find opportunities for design within nested systems of landscape, infrastructure and occupancy. The studio will focus on the relationship between urban infrastructure and an architectural scale of development. We will create inspiring places that improve the performance of urban systems, contributing to an evolving understanding of the [re]production of value.

This studio is part of a series of studios examining architecture's functional, spatial, experiential, and cultural relationship with urban infrastructure. Our studio will shift scales, understanding each scale as an opportunity for design. We will design places, but we will sometimes design systems or even engagements. You will expand your understanding of resource flows in placemaking, in system functioning, and how our designs and design processes can activate human experience.

INFRAstructure studio focuses about the forces that underly urban form.

The studio will examine the dynamics of resource flow, whether it be water, mobility, food, or energy. We will examine the associated form logics to these resource flows and how those relationships change at different scales.

For the past years, this studio has focused on water and its shaping forces for culture, community, ecology, and urban fabric. Students in the studio develop the ability to read, map and represent system dynamics and formal characteristics related to water. Students develop skills to understand causal or correlative relationships and how systems evolve over time. Students understand the technical functioning of systems and how that can be generative or otherwise influence architectural form. Past studios have challenged the meaning of infrastructure as a heavily engineered or centralized system that underlies urban development. As our centralized industrial systems begin to age into obsolescence, the studios explore the role of decentralized solutions and how we might negotiate a new relationship with existing and emerging technologies.



F17



48-400/500
Christine Mondor
Day/Time TBD

INFRASTRUCTURE STUDIO

Forces Underlying Urban Form

Our studio will shift scales, understanding each scale as an opportunity for design. We will design places, but we will sometimes design systems or even engagements. You will expand your understanding of resource flows in placemaking, in system functioning, and how our designs and design processes can activate human experience.

OBJECTIVES ::

Technical Knowledge

We will develop technical knowledge of infrastructure (water, energy, food, or mobility) and how our it influences urban form and occupancy patterns. We will be introduced to the reciprocal forces of landscape ecologies and human occupancy and will build our skills at pattern reading in the urban landscape.

OBJECTIVES ::

Procedural Knowledge

We will be able to identify scales of change, the role of contingency in constructing scenarios, and the forces that influence change.

We will be introduced to the disciplinary expertise and methodologies of allied fields including ecology, hydrology, civil engineering, etc.,.

OBJECTIVES ::

Spatial & Experiential Knowledge

We will explore the human experience of infrastructure through spatial strategies, modeling and representation.



F17



48-400/500
Christine Mondor
Day/Time TBD

MOVING IMAGE

Accelerated Practice

Introduction

The studio will explore experimental film with related theoretical texts and use these findings to speculate on a new architecture. The resulting designs will be represented in the medium of film. The course will consider new potentialities for an architecture composed through an understanding of time in space. A contemporary response will be developed with reference to the films of Teinosuke Kinugasa, Chris Marker and Hito Steyerl.

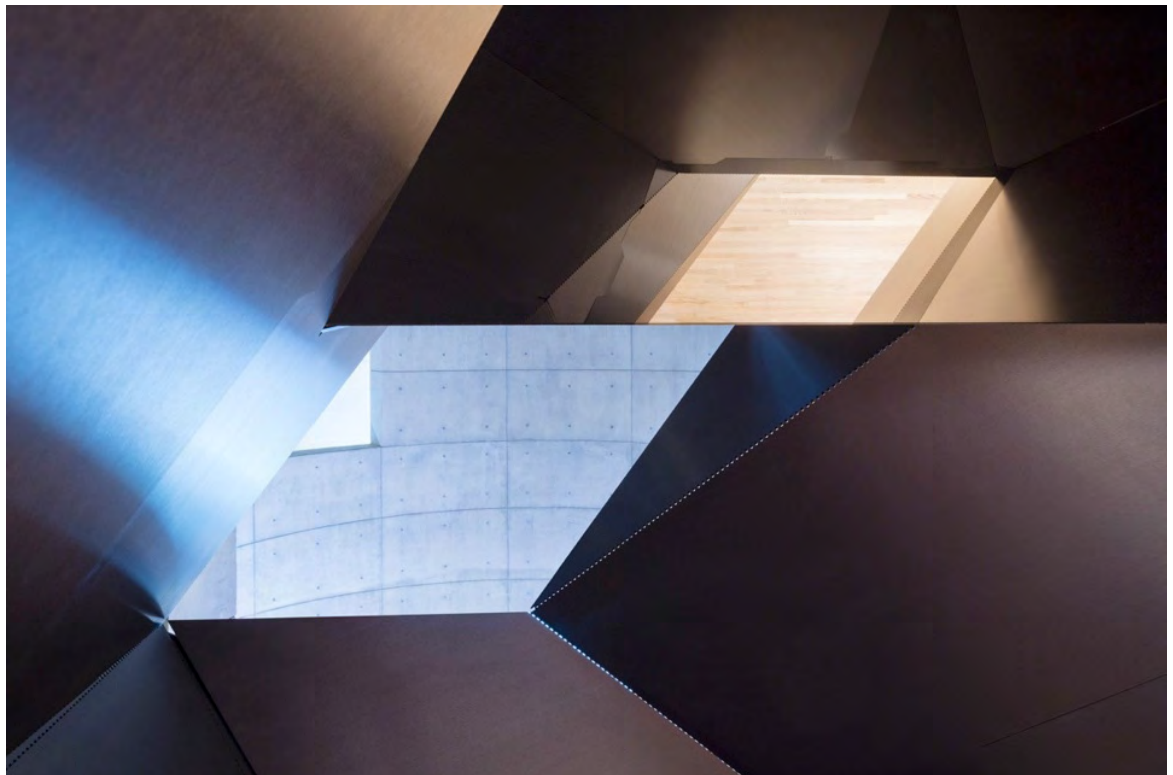
Ambition for the studio

1. to engage in abstract thought analyse genre, narrative, technique and affect in expanded cinema
2. to integrate complex levels of engagement in architecture - psychological, embodied, mnemonic, eidetic, social, economic, political and cultural.
3. to develop an architectural proposition which uses cinematographic space in an architectural way, that is speculative and innovative.

.....the perspective of free fall teaches us to consider a social and political dreamscape of radicalized class war from above, one that throws jaw dropping social inequalities into sharp focus.

*Hito Steyerl,
The Wretched of the Screen,
2012 p28*

*Sarah Oppenheimer,
W 120301, Baltimore
Museum of Art*



S18

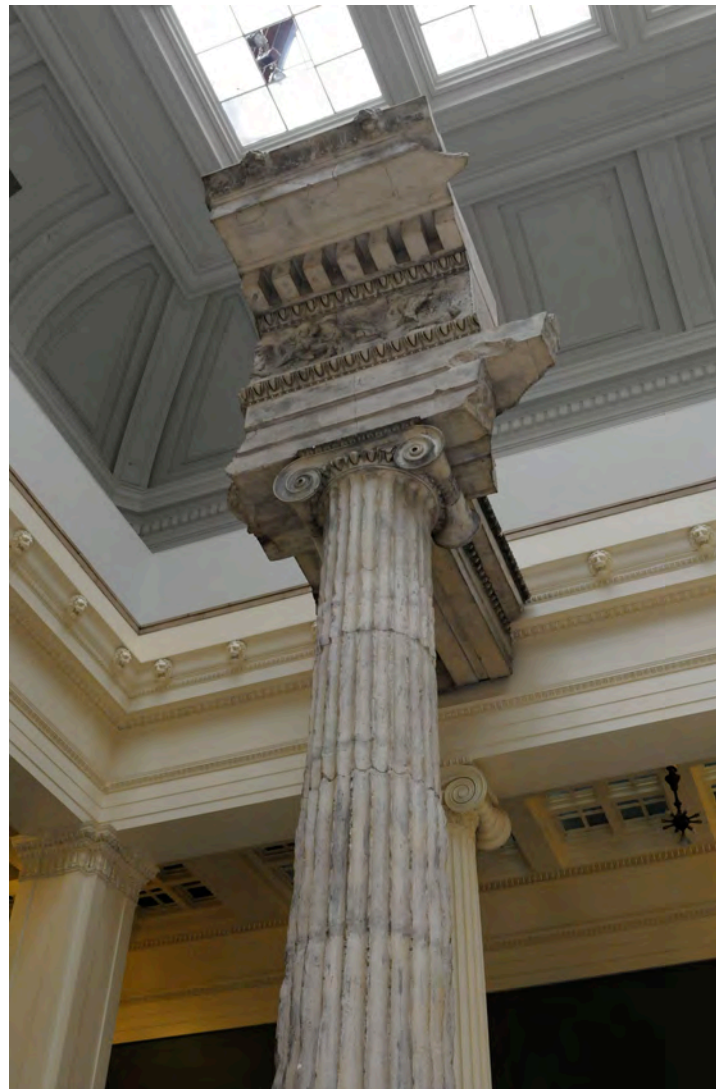


48-405/505 Studio
Mary-Lou Arscott
M/W 12.00-4.20pm

LOW RELIEF

Reconsidering Architectural Plaster with CMoA and HACLab 2.0

In partnership with the Carnegie Museum of Art and HACLab 2.0 Low Relief will explore the historically rich material culture of architectural plaster. The museum's plaster cast collection in the Hall of Architecture will serve as a laboratory to explore the intersection of contemporary technologies and historic craft. Material play and robotic experimentation will serve as a vehicle to explore a variety of themes including: the duplicity of architecture in the use of faux materials, the architectural surface as the first virtual reality interface, classicism as proto-parametric design process. A portion of the studio sessions will be hosted by the CMoA Heinz Architectural Center.



*Hall of Architecture
CMoA*

S18



48-405/505 Studio
Josh Bard
Time/day TBD

PALLADIO

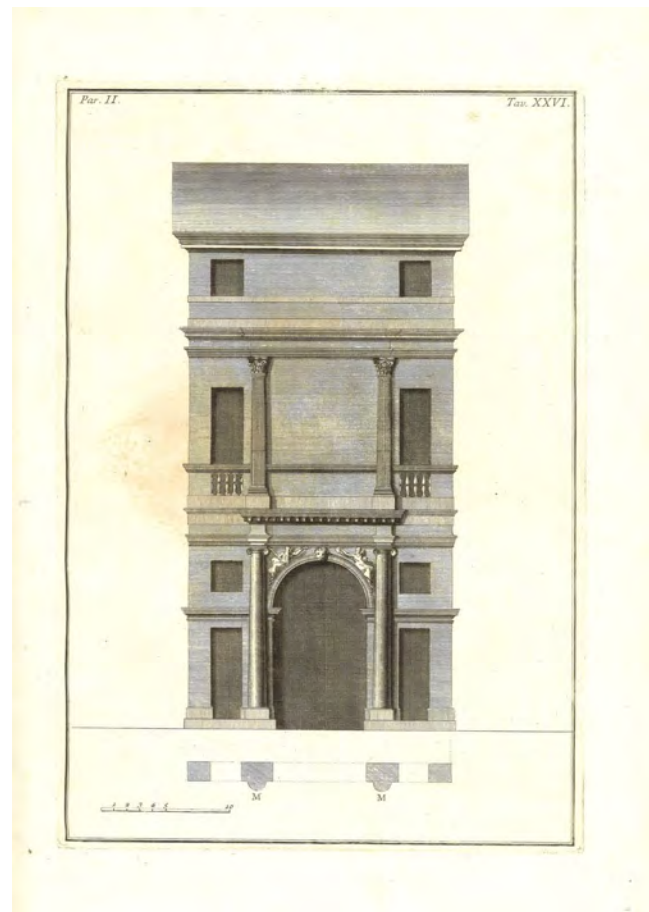
Palladio Institute and Archive, Vicenza, Italy

Potentially there could be an optional studio trip to Vicenza in January 2018

This studio will consider how contemporary architecture and technology can integrate itself into the historic fabric of the Italian city. The studio will focus on a building type to contain a portion of the Andrea Palladio Archive. The project will consist of a building solution with an expectation of high resolution to the urban context, enclosure and the construction systems that make up the comprehensive building solution.

Drawings and models will go beyond the expectations of previous design studios with the expectations of a highly refined solution at many different scales including 1:1 details and mock-ups.

Research: A comprehensive study of the formal systems of Andrea Palladio will be contrasted with the contemporary discourse of computational form and construction technique.



*Casa Palladio,
Ottavio Bertotti
Scamozzi, 1776*

S18



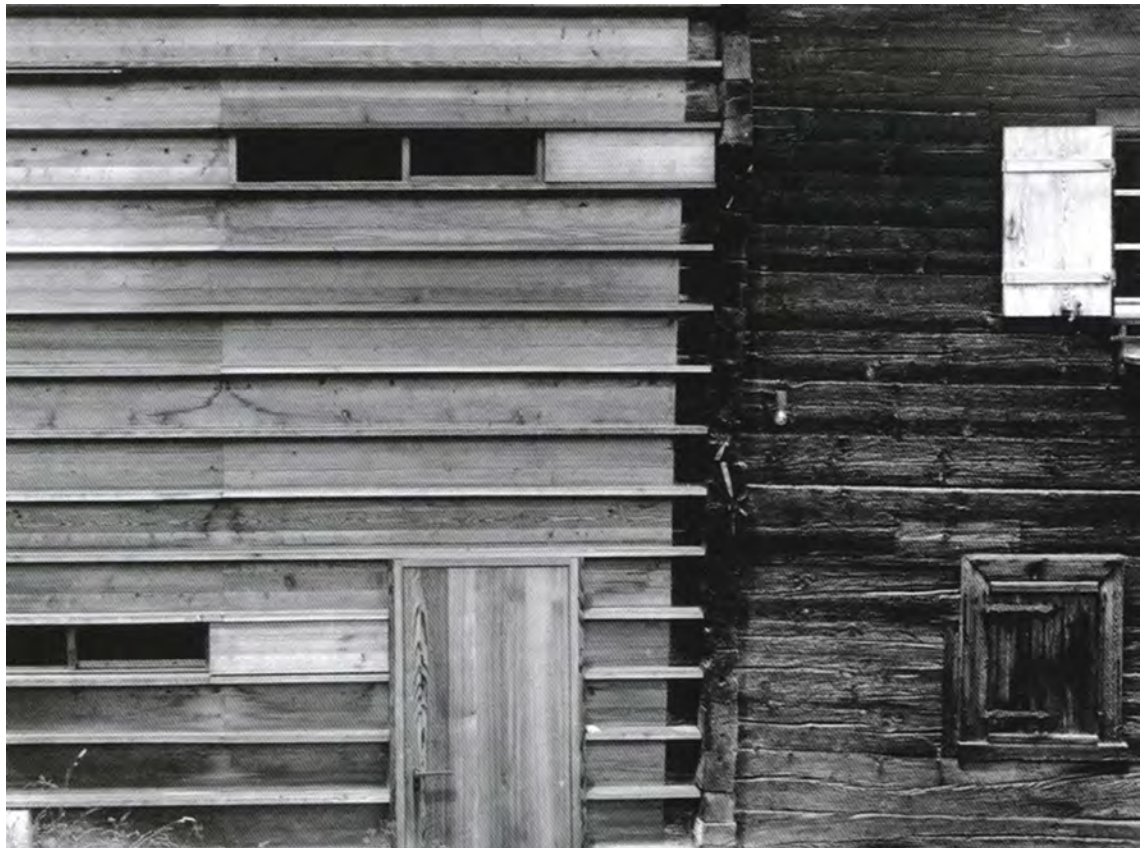
48-405/505
Gerard Damiani
MF 12.00-4.20pm

Reconstructing Authenticity

The Spring 2018 Urban Design Build Studio (UDBS) will continue work, and expand research on the relationship between built infrastructure, policy, and alternative constructive action through Public Interest Design (PID) initiated in the fall of 2017. Project work in RECONSTRUCTING AUTHENTICITY will focus on the potential of Design for Deconstruction (DFD) in need based, single family housing.

Utilizing work developed during the DECONSTRUCTING BLIGHT Studio (Fall 2017), the RECONSTRUCTING AUTHENTICITY Studio will provide an opportunity for the development of a

regionally specific, ultra sustainable, affordable housing prototype, RE_CON 01. Incorporating material elements extracted from the deconstruction of housing and building stock during the fall semester, RE_CON 01 will aspire to achieve a level of appropriateness, place specificity, and authenticity that will sustain cultural relevance for future generations. In addition to meeting the needs of residents, and sympathetic relationship to site, the semester's work will seek to establish the broader value proposition of Design for Deconstruction (DFD) to Public Interest Design (PID).



S18



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

Reconstructing Authenticity

Traditionally, DFD is understood as an emerging concept that borrows from the fields of design for disassembly, reuse, manufacturing, and recycling in consumer products industries – all upcycle design and fabrication processes. Meeting the economic and environmental objectives embedded in Public Interest Design (PID), consideration of upcycle DFD increases resource efficiency by anticipating the future adaptation and eventual removal of buildings; consideration accounts for the recovery of components/materials for recycling, reuse, remanufacturing and reconstruction. Studio work will leverage the merits of upcycle DFD practice and compliment it with downcycle DFD considerations in an effort to create authentic, place specific building solutions. Downcycle DFD involves the repurposing of materials that were never intended to be recycled or re-used. These are materials and component assemblies implemented with firm grounding in the notion of permanence. The materials are of the place, and embody the spirit of the landscape. Uniting upcycle and downcycle DFD practices, the UDBS will seek to RECONSTRUCT AUTHENTICITY in architectural proposition that can evolve sympathetically with technology and use patterns.

RECON 01 will incorporate DFD considerations through the use of pre-fabricated modular/componentized building systems incorporating reconstituted/harvested building materials. The structure and all components will be pre-fabricated/constructed at PROJECT RE_. The sixth in a series of collaborative studios executed with IDeATe, Reality Computing will be utilized extensively to enhance digital workflows and communication with stakeholders throughout the design and implementation process.

S18



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

Reconstructing Authenticity

RECONSTRUCTING AUTHENTICITY

studio is a component of a broader Public Interest Design continuum established by the UDBS and PROJECT RE_. This studio provides a pre-text for Summer 2018 UDBS Paid Internship and subsequent 2018/2019 UDBS sequence. Skill sets and sensibilities developed in each UDBS ASOS and Co-requisite courses are intended to inform subsequent studios. The structure is designed to enable students to progress through a sequence of Public Interest Studios as a focus, or participate in individual studios electively. UDBS summer internships are reserved for students who have completed Urban Design Build Studios, and are offered based on demonstrated ability to accept responsibility.

The studio will meet Mondays and Wednesdays from 12:30PM to 4:20PM. Students enrolled in the Urban Design Build Studio (UDBS) CULTURAL CONSTRUCTION Studio are required to enroll in 48_523, PRACTICE RECONSIDERED (9-12CU Flex).

PRACTICE RECONSIDERED will meet on Fridays from 12:30PM to 4:30PM.

Wednesdays will be utilized for collaboration with IDeATe in the Collaborative Making Center, Hunt Library.

This studio is generously funded by Autodesk, the Heinz Endowments, and the Urban Redevelopment Authority of Pittsburgh (URA). All construction work will be done in collaboration with the Trade Institute of Pittsburgh (TIP) and Construction Junction (CJ). Students will work shoulder to shoulder with populations representing the communities where the UDBS practices.

S18



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

Reconstructing Authenticity

CONTEXT:

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S18



48-405/505 UDBS
John Folan
M/W 12.30-4.20pm

COOPERATIVE CITY

Urban Tactics, Actions and Assemblies

As current notions of ownership give way to a new culture of access, the studio will explore the corollary risks and promises of the so-called sharing economy for urban mobility through a series of tactical interventions in public space. These design interventions will act as catalysts for staging, debating and envisioning the reclaiming of social commons and the economies of sharing for the *Cooperative City* to come.

"The right to the city is (...) far more than a right of individual access to the resources that the city embodies: it is a right to change ourselves by changing the city more after our heart's desire. It is, moreover, a collective rather than an individual right since changing the city inevitably depends upon the exercise of a collective power over the processes of urbanization."

David Harvey
in *Rebel City*, 2012.

FRAMEWORK

Confronted with enduring financial crises, intense ecological pressures and the growing realization that neither State nor Market (alone) seem able to regulate an even distribution and access to resources and opportunities, more and more citizens the world over are taking matters into their own hands, self-organizing and claiming their right to the city. These citizens' initiatives have brought the city to the center of discussions on social justice and solidary economies: some speak of P2P- or bottom-up urbanism, others of the DIY-city or urban commoning—in this studio we will call it the Cooperative City.

According to Jeremy Rifkin, we are witnessing the early symptoms of a much broader paradigm shift: the third industrial revolution. In *The Zero-Margin Cost Society*, Rifkin argues that each previous industrial revolution emerged from the convergence of threefold innovations in communication, energy and transportation: while the steam engine, coal and the telephone gave rise to Industrial Capitalism, and the car, oil and television led to Fordism, today the three internets of communication, renewable



The CINEROLEUM: a derelict petrol station on Clerkenwell Road, London transformed by ASSEMBLE into a hand-built cinema.



No cars on Broadway: Times Square, New York after Janette Sadik-Kahn's *Street fights* (the name of her homonymous book). The former commissioner of the New York City Department of Transportation has been referred to as "the child that Robert Moses and Jane Jacobs never had."

energies and autonomous vehicles are inducing a shift from ownership to access, often referred to as the *Sharing Economy*. Historically each of these economic paradigms have also brought about new forms of cities with distinct cultures and architectural typologies: the congested European Metropolis is best embodied by the *flâneur* strolling through Parisian Arcades, American sprawl is epitomized by drivers catching glimpses of "decorated sheds" or "ducks" on the Las Vegas Strip. So what kind of city and architecture will emerge from the so-called Sharing Economy? And how will the role and agency of architects and urban designers change, based on the distributed, collaborative and lateral organization symptomatic of the emerging infrastructure networks? How can we negotiate top-down planning and bottom-up transformations? And can we contribute to planning the un-planned?

S18



48-405/505 Cooperative City
Stefan Gruber
times TBD

COOPERATIVE CITY

RECLAIMING THE ECONOMIES OF SHARING

Companies like Airbnb and Uber are already fundamentally changing our cities. On the one hand they promise a more effective use of existing resources—the infamous private car sitting idle 23 out of 24 hours. But will the notions of sharing they propose contribute to making our cities more cooperative, more sustainable and more livable? Many critics have exposed the euphemism of the sharing economy as intermediary corporations commodifying social relations, experiences and affects, while socializing risks and privatizing profit. Moving beyond criticism, Trebor Scholz among others has put forward the concept of Platform Cooperativism: a program for reclaiming collective ownership over the economies of sharing by seeking democratic governance and reinvigorating solidarity. Can local communities take inspiration from platforms cooperativism and reclaim the urban commons that citizens collectively produce and reproduce on an everyday basis? What will it take for citizens to self-organize and define the terms of their cooperation based on their own terms? How can we channel the wisdom of crowds into urban resilience, rather than leaving the ubiquitously proclaimed smartness of future cities to the governance of remote corporations accountable to even more remote stockholders? And how can we imagine new community economies while avoiding the pitfalls of small town nostalgia and mechanisms of segregation and exclusion?

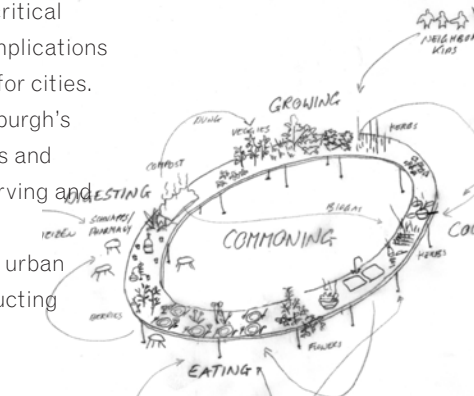
These are some of the larger questions that will frame and guide Cooperative City Studio as we seek tactics for urban interventions that might contribute to

prepare Pittsburgh for an alternative, more cooperative future. But we should not assume that cooperation will ever be free of friction. On the contrary, we should embrace the encounter and collective negotiation of differences, even conflict, as the very idea of the political project that is the city.

OBJECTIVES

Thus the cooperative city studio will seek to cultivate and design sites for agonistic encounters. Rather than aiming at problem solving, the studio will focus on asking questions leading from, what is the current city capable of? It will aim at a critical understanding of the political implications of the new economic paradigm for cities. It will seek to engage with Pittsburgh's existing initiatives, local citizens and stakeholders and begin by observing and listening.

Accordingly, the initial series of urban interventions will aim at constructing situations that incite exchange.



TISCHLEIN DECK
DICH is a temporary installation, part farm, part table, part public kitchen realized at the Bauhaus Dessau by **STUDIOGRUBER** together with artist Ursula Achternkamp and gardener Klaus Fishedick
THE KITCHEN MONUMENT by **RAUMLABOR** is a mobile inflatable sculpture that expands into a temporary public space. Different programs are staged in different places.



S18



48-405/505 Cooperativ
Stefan Gruber
times TBD

COOPERATIVE CITY

*"If there is to be a
"new urbanism", it
will not be based on
the twin
fantasies of order
and omnipotence; it
will be the staging of
uncertainty; it
will no longer be
concerned with the
arrangement of more
or less
permanent
objects but with
the irrigation of
territories with
potential (...)"*

Rem Koolhaas
in "Whatever
happened to

How can we bring people together to participate in imagining another possible future? How can we encourage and design encounters in which various actors engage in debating ideas, without overriding the respective differences, needs and desires they bring to the table. And can we thus begin re-articulating the roles of designer, planner and citizen beyond the dichotomy of experts versus laymen?

In this studio, students will learn how to read an urban milieu inductively and engage with the layered economic, political and socio-cultural forces at play in shaping the built environment. They will learn how to embrace designers' inability to control the dynamics of urbanization, and instead seek political agency through productively working with uncertainties and contingencies. They will learn how to combine abstract, large-scale analysis and synthesis of systems, with very concrete, local and hands-on interventions. Challenging conventional planning methods, this course will introduce examples of alternative urban tactics and instruments – not with the intention to advocate for the replacement of the master plan, but to explore how alternative, topological strategies that complement top-down planning with bottom-up processes may, at times, be more appropriate and effective in dealing with the transformation of the contemporary urban landscape.

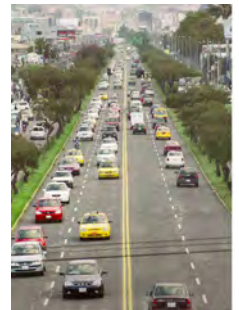
The Cooperative City project is conceived as a platform for research, projects, public interventions, conversations, exhibitions and publications. Accordingly the Cooperative City studios will be structured as a long-term investigations: over the course of the

initial three studios, we will successively address issues of cooperative mobility, cooperative housing and cooperative urban agriculture. Movement, dwelling and eating are some of the most universal human activities. Open access, affordable housing and healthy food are also the most essential attributes for preparing cities and communities for a sustainable future.

PROCESS: UNDER THE PAVEMENT – THE BEACH!

The first Cooperative Cities studio will focus on urban mobility and access. We will explore the implications of a more distributed, collaborative and lateral transportation-internet for Pittsburgh and its metropolitan area. The City of Pittsburgh has already initiated the development of Complete Streets Policies. And while they didn't win the USDOT's most recent smart cities challenge, the city is committed to move forward in making Pittsburgh a leader in smart and sustainable mobility.

Meanwhile urban policies are slow in delivering palpable results. To counter the inertia and controversies inherent to infrastructural transformation, many best practice examples such as Curitiba's Rua das Flores (1972), Bogota's Ciclovía (1976) or New York City's transformation of Broadway (2009) have employed temporary tactical interventions to test ideas, create tangible experiences and mobilize citizens. As we take the debate on the future of our city to the streets and expand and diversify the stakeholders participating in the debate, we also enable real-time feedback and a more incremental, iterative and ultimately resilient design process.



*THE CICLOVÍA:
Every Sunday from
7am to 2pm, 70 miles
of Bogota's Carrera
Séptima, one of the
city's main streets, are
blocked off to
motor vehicles.*

S18



In the quest for the proverbial beach under

48-405/505 Cooperative City

Stefan Gruber

times TBD

COOPERATIVE CITY

the pavers, the studio will operate at three levels:

1. We will study, meet with and document existing local initiatives, comparing and complementing their efforts with selected international cases studies. Learning from both, we will attempt to identify key challenges and potentials of Pittsburgh's future mobility in a series of short films targeting a general public.

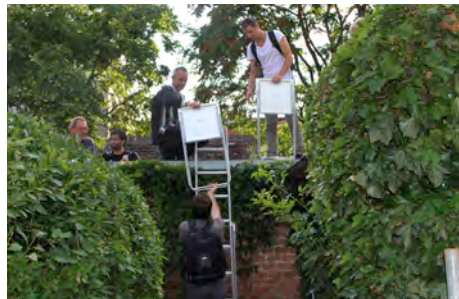
2. We will then design, organize and perform a series of public interventions, acting as urban catalysts for bringing people together, stimulating debates and planting seeds for alternate possible futures of the cooperative city. These acupuncture interventions will focus on soft mobility, namely walking and biking.

We will explore walking as a form of study as much as a performative act. We will discover how different techniques of walking, ranging from the Situationist *Dérive* to Lucius Burckhardt's *Promenadology*, have inspired new ways of experiencing and conceptualizing the city. Responding to specific situations in the city, we will experiment with and develop a series of public walking acts.

We will design or rather transform and construct a series of pedal-electric vehicles, such as elf-bikes or urban arrows, into mobile urban infrastructures for hosting public assemblies in latent urban spaces. These might involve movie screenings, debates, exhibition or cooking events. Learning from relational art practices, we won't consider our designs as final products as much as seeds to trigger and stage open-ended collective processes that might inspire local residents and experts alike to engage with and better understand their city, its dynamics and latent potentials. Beyond



RESTLESS SPHERES:
a walking demonstration
by COOP-Himmelblau
in Basel, 1972.



BACKYARD-PARCOURS:
a public walk and
collective *parcour* across
fences, walls and
roofs of Vienna's
inner courtyards,
organized for the
URBANIZE festival
by students of the
Academy of Fine Arts
Vienna as part of a studio
taught by Stefan Gruber.

"Walking is to the urban system what the speech act is to language or to the statements uttered."

Michel De Certeau in *The Practic of the Everyday*, 1980

this semester, the mobile device will serve as infrastructure for taking future cooperative city studios, their ideas and debates to the streets.

3. Finally we will engage in radical imaginations of scenarios for Pittsburgh's future mobility. As cars become mere accessories to smartphones, architects and urban designers have to consider their contribution to a widely technology-driven development. Beyond engineering, what culture will emerge from such new mobility and how will it affect the nature of our streets, parking and public spaces? With Bruno Latour in mind, the studio will shift its attention from matters of facts to matters of concerns, exploring how these evolutions can contribute to render our cities and its resources more accessible to all. By asking "what if?" these scenarios will aim at stimulating a debate on how we would like to "change ourselves by changing the city more after our heart's desire." (David Harvey)

WORKING HYPOTHESIS

S18



48-405/505 Cooperative City
Stefan Gruber
times TBD

COOPERATIVE CITY

The studio's investigations will unfold from the implications of three phenomena:

1. As private car ownership gives way to car- and ride-sharing and ultimately autonomous vehicles and drones, the number of vehicles on the road and especially on parking is expected to dwindle by as much as 80%. Considering that the US has built an average of eight parking lots for every car in the country, equaling 1100 square feet of surface area per car—twelve times more than what the World Health Organization recommends as the minimum green space per capita for healthy urban environments—this transformation will have an immense impact on settlement patterns, land-use and public space. How can the urban land- and streetscapes be retrofitted and reclaimed as commons? How can we devise long-term visions that can be implemented instantly yet incrementally? And how can these scenarios create synergies with existing local citizen's initiatives and community organizations?

2. The dichotomy of public versus private that still stifles discussions on urbanism has become obsolete. But as new hybrid and context-specific forms of ownership emerge, the key question will be who controls the terms of access and benefits of the sharing economy? How can urbanism learn from the rich US-history of cooperatives and tap into current energies unfolding around P2P and commoning movements? What possible scenarios of cooperative platforms exist for shared mobility? What role should and can municipalities play in the negotiation of these social contracts?

3. In parallel to the proliferation of sharing platforms, we are witnessing an exponential diversification of locomotive species, including crossbreeds of hoverboards, scooters, e-bikes and pod-cars among others. Thus commuters

increasingly combine and customize their rides on demand, bringing questions of intermodality and the first- and last-mile problem to the forefront of future mobility. Over half a century ago, Jane Jacobs dissected how sidewalk contacts are the small change from which a city's wealth of public life may grow. As the modal split, once neatly categorized into walking, cycling, public transportation and driving private cars, blurs into an expanding multiplicity of hybrid transportation modes, we also have to reconsider that a new urban street culture will emerge from the negotiation of polymodal shared spaces.

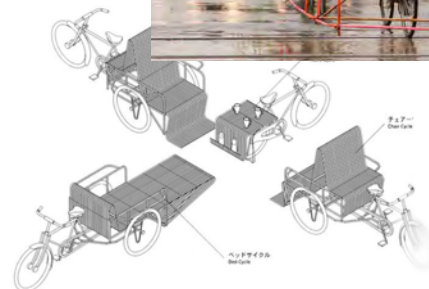
1. PUBLIC TRAIER by FELD72, Vienna.

2. Road graffiti, anonymous.

3. ESCARAVOX by Andrés Jaque Architects / Office for political innovation in Madrid.

4. Bike activists in Riga based on Hermann Knoflacher's concept of "Gehzeug."

5. FURNICYCLE by Atelier Bow-Wow for Shanghai Biennale 2002.



S18



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times TBD

4-D ARCHITECTURE

Dynamic Design for Dynamic Use

New York World Trade Center Performing Arts Center

While architectural space is largely three-dimensional and static, human occupancy is inherently four-dimensional and dynamic. This semester we will study and design hyper-flexible performance spaces which respond

dynamically to an artist's creative vision and the audience's evolving desires. The World Trade Center Performing Arts Center (PAC) is the most anticipated, and controversial, addition in a generation to Manhattan's rich performing arts ecosystem. This 1200-seat three-theater complex is a real project currently in design and planning. Site, program and all constraints will be the same as those with which the professional design team is working, requiring students to develop mastery of the technical realities of performance productions, construction methodologies, structural & mechanical systems and community/stakeholder activism. Students will meet with the real client, potential users, public officials and the professional design team involved in the project, learning to analyze and understand the needs of these distinct occupant groups and use those needs as the fundamental basis of parti. Design is also informed and shaped by the cultural significance and structural constraints of this uniquely meaningful and complex site.



PAC WTC Site
Aerial
REX

S18



48-405/505
Hal Hayes
Time/day TBD

4-D ARCHITECTURE

Dynamic Design for Dynamic Use

New York World Trade Center Performing Arts Center

ASOS students will collaborate in study & design with Drama and Masters of Arts Management (MAM) students. During the first third of the semester inter-disciplinary teams of Architecture, Drama & MAM students will analyze the site, study precedents and define planning and programming criteria. During the remainder of the semester Architecture students will conceive individual designs for the theater complex in collaboration with the Drama and MAM students.

This studio is part of the Theater Architecture concentration.

Co-Requisite;
62:408 - Mini 3, (6) &
62:418 - Mini 4 (3),
Theater Architecture I & II (co-taught
with Dick Block, Drama Associate Head
& Scenic Design Professor)

Additional Faculty: Kathryn Heidemann
(Heinz College Associate Head & Arts
Management Program Director)

S18



48-405/505
Hal Hayes
Time/day TBD