Spring 2024

Arch 463/464: Living in Performance Spaces

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New Jersey School of Architecture Hillier College of Architecture and Design NJIT

PCI Research Studio

Living in Performance Spaces
ARCH 463/464 Option Studio - Spring Semester, 2024
Gernot Riether

Prerequisites: (ARCH 396 or ARCH 364), (ARCH 304 or ARCH 329), (ARCH 314 or ARCH 327) and ARCH 324.
Meeting Times: Monday and Thursday 12:00PM – 05:20PM
University Deadlines and Holidays: https://www.njit.edu/registrar/calendars
Office Hours: Open door policy (Weston 566) or by appointment in person or online: griether@njit.edu
Teaching Mode: Face to face
Location: 720-730 Weston Hall, if other you will be notified via email.

Projects by: Abdurahman Oudeh + Samantha Volpicella, Karly Savinon + Ella Martz, Kashish Dalal + Lucas Konradparisi, Pictures of High-Concrete Plant

Introduction:

Concrete is one of the world's oldest building materials. Twice as much concrete is used in construction around the world as all other materials put together. This studio will invest the advantages and challenges of precast concrete construction methods and analyze and develop ideas for new strategies for mass customization, construction and assembly processes. To do that the studio will work closely with the Precast Concrete Institute (PCI) and the Concrete Industry Management (CIM) Program at the School of Applied Engineering and Technology (SAET) to learn about current practices, identify challenges and speculate with solutions for climate action.

To address the large demand for housing in the New York Metropolitan area developers are maximizing building envelopes defined by zoning. Apartments are compressed into micro-units to make housing more affordable for a middle-class demographic of individuals that live an increasingly nomadic lifestyle, typical for metropolitan areas such as New York. Such buildings and typologies are challenging the meaning of home and belonging. Living in a digital culture we are always connected, yet we are isolated. The studio will design new rituals that address these challenges and will then imagine new types of future spaces developed around these new rituals.

As the living unit is getting more compressed the need for social spaces increases. Increasing the live quality of these new dense urban environments goes beyond the scale of a living unit and requires spaces to socialize, activate and form new communities, celebrate culture and experience art. The studio will therefore search for projects unique in their combination of housing with a space for community that creates identity, is financially attractive and sustainable.

Performance Space:
Performance Space in this context will be defined as a space that can alter and change through moveable elements in order to allow for different uses. The studio will test this concept against the program of a small and compressed living unit for an individual or a couple and a performance space for a diverse community to meet. To accomplish that the studio will combine a precast concrete system with light and flexible construction systems.

Private space transformer:
The studio will investigate in compact housing such as micro - housing to reduce construction cost, cost for maintenance and energy consumption. Instead of developing individual spaces for individual function such as living room, kitchen, bedroom the studio will develop spaces that can transform to serve different functions. The apartments will respond to a demographic of one to two person households and young professionals that prefer public transport over cars and the walking distance to the Journal Square transportation hub and its proximity to Manhattan.

Community space transformer:
The studio will develop a permanent space for Jersey City Theater Center (JCTC) that will allow for visual arts, theater, dance, monologues, and other types of performances, take advantage of new technologies to create new kinds of spatial experiences and be integrated with its community in a much broader sense; be it through education, an event space for public and private gatherings, markets, a space for town halls by city officials or a space for debate.

Site:
The site of the studio's project will be Journal Square. Journal Square, named after the Newspaper Jersey Journal developed between 1920 and 1960 into a major commercial, entertainment and transportation hub. The more recent high-rise redevelopment of Journal Square has raised questions and a discussion about today's understanding of how a city should function by planners, architects, and sociologists. The studio is using this particular moment of the development of Journal Square to illustrate how different sites can be used for this combination of program Each team will select one of 5 properties to test different scenarios for the program. All sites will be in walking distance to Journal Square Path Station.

Course Learning Outcomes:

Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession. Architects commit to equity, diversity and inclusion in the environments we design, the policies we adopt, the words we speak and the actions we take.

Utilizing knowledge and skills gained in the first 3 years of studios such as analytical and critical thinking skills, conceptual thinking, fundamental design skills and presentation skills and knowledge gained in core courses such as Building Construction this studio will engage students in architectural research to test and evaluate innovations in the field. Through the development of their projects students will get in depth understanding of precast concrete as structural and system. Students will practice design skills and how to respond to site conditions, program, user requirements, regulatory requirements, accessible design, life safety systems and environmental impact.

Approaches to leadership: Students will learn how to collaborate in teams and work with the precast concrete industry and diverse stakeholder constituents by developing effective collaboration skills to challenge, respond and synthesize feedback in order to solve complex problems in responsible ways.

NAAB: The National Architectural Accrediting Board accredits NJIT's architecture program. The NAAB has Program and Student Criteria that must be covered by any architectural curriculum to attain their approval. This course satisfies the following criteria as outlined in the 2020 NAAB Conditions for Accreditation.

- **PC 5** Research & Innovation - How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.
- **SC.1** Health, Safety, and Welfare in the Built Environment - How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.
- **SC.4** Technical Knowledge - How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

Schedule:

Week 1
TR 01/18
Assignment 01: Precast Systems Introduction
<mark>Industry Presentations</mark>

Week 2
MO 01/22
Assignment 02: Context Analysis Introduction
TR 01/25
Assignment 01, 02: Review
Assignment 03: Building Code and Ideas Introduction
<mark>Site Visit and Developer Presentations</mark>

Week 3
MO 01/29
Assignment 01, 02, 03: Review
Assignment 04: Massing Introduction
TH 02/01
Assignment 05: Performance Spaces Introduction

Week 4
MO 02/05
Assignment 01 - 05: Review
Assignment 06: Schematic Design Introduction
TR 02/08
Schematic Design

Week 5
MO 02/12
Assignment 01 - 06: Review
Assignment 07: Prototype Ideas Introduction
TR 02/15
Prototype Ideas

Week 6
MO 02/19
Assignment 01 - 06: Review
Prototype Ideas
TR 02/22
<mark>Industry review prototype</mark>

Week 7
MO 02/26
Prototype Ideas
TH 02/29
<mark>Industry final review prototype</mark>

Week 8
MO 03/04
<mark>Industry submission prototype piece tickets</mark>
Assignment 08: Prototype Production Introduction
TH 03/07
Assignment 01 - 07: Midterm Review

MO 03/11 (Spring Break)
TH 03/14 (Spring Break)

MO 03/18
Prototype Production
TH 03/21
Prototype Production

MO 03/25
Assignment 01 - 08: Review
Preparation for Trip 1
TR 03/28
Trip 1: Prototype production

MO 04/01
Assignment 01 - 08: Review
Preparation for Trip 2
TR 04/04
Trip 2: View prototypes, plant tour and feedback session

MO 04/08
Assignment 01 - 08: Review
Assignment 09: Prototype Presentation Introduction
TR 04/11
Assignment 10: Final Presentation Introduction

MO 04/15
Assignment 01 - 10: Review
Final Presentation
TR 04/18
Final Presentation

MO 04/22
Final Review
TR 04/25
Exit interviews

Readings and Resources:

Housing:
- A+T Online Library: https://aplust-net.libdb.njit.edu:8443/area-privada/biblioteca-digital/#

Theater Case Studies:
- Hattiloo Theater - Archimania
- White Oak Music Hall - Schaum/Shieh
- Blue Barn Theater - Min Day
- Young Vic - HaworthTompkins
- The Shed - HaworthTompkins
- Writers Theater - Studio Gang
- The Bronks Youth Theatre - MDMA
- Bijlmer Park Theater - Paul de Ruiter Architects
- St. Ann's Warehouse - Marvel Architects
- BMW Guggenheim Lab - Atelier Bow Wow
- The Cineroleum - Assemble
- Theater on the Fly - Assemble
- Grand Canal Theater, Dublin, Ireland, Daniel Libeskind
- Haus für Musik und Musiktheater, Graz, Austria, UN studio
- Begrisch Hall Bronx Community College - Marcel Breuer
- Théâtre de Quat'sous / FABG
- [Begrish Hall, Marcel Breuer](#)
- [Sections of Theaters](#)

Regulatory Requirements, Accessible Design and Life Safety Systems:
- The Architectural Studio Companion, Edward Allen & Joseph Iano
- Architectural Graphic Standards, Keith Hedges
- Building Codes Illustrated, Francis Ching
- 2018 International Building Code, https://codes.iccsafe.org/
- Building Structures Illustrated, Francis Ching
- Structural Design of Buildings, Paul Smith

Concrete construction:
- Concrete by Koren, Leonard, Hall, William.
- Best of Detail: Beton = concrete, Christian Schittich
- Modern concrete construction manual: structural design, material properties, sustainability, Martin
- Concrete design by Roth, Manuela.
- Concrete: design construction examples, Peck, Martin
- Solid states: concrete in transition by Bell, Michael, 1960-; Buckley, Craig

Building Envelope Systems & Assembly:
- Facade Construction Manual: 2nd Edition, Thomas Herzog, Roland Krippner, and Werner Lang
- Building construction Illustrated, Francis The Architectural Detail, Edward Ford
- Studies in Tectonic Culture, Kenneth Frampton
- Constructing architecture: materials, processes, structures: a handbook, Andrea Deplazes

General Readings:
- The Language of Architecture, Andrea Simitch and Val Warke
- Rethinking Architecture: A Reader of Cultural Theory, Neil Leach
- Architectural Drawing, David Dernie
- Architecture, Form, Space and Order, Francis Ching
- The Function of Form, Farshid Moussavi and Daniel Lopez

Means of Evaluation and Grading Standards:

All parts of the research and project will be evaluated; however, the purpose of the educational experience is to develop personal professional motivation and not to encourage the idea that work is created solely for the purpose of external reward. The benefit that will accrue from this approach is that it will reinforce a "risk free" environment, TAKE A CHANCE, creative thinking will be rewarded (and is required). Mid-semester reviews will occur to help us each understand both your strengths and weaknesses in time to assure a successful educational experience.

The student who exhibits evidence of intellectual curiosity and growth by expanding the limits of the problem; by utilizing creativity and innovation in the interpretation of the problem; by being willing to experiment; by trying to go where "no person has gone before" is above average or excellent and will be rewarded at a level commensurate with that effort. At this time in your professional career as a student, (we are all students all our lives) intensity, effort, intellectual inquiry, professionalism, open-mindedness and a positive cooperative spirit are the most important virtues you can cultivate.

Grading Scale:

Assignment 01: Precast Systems 10%
Assignment 02: Context Analysis 10%
Assignment 03: Building Code and Ideas 10%
Assignment 04: Massing 10%
Assignment 05: Performance Spaces 10%
Assignment 06: Schematic Design 10%
Assignment 07: Prototype Ideas 10%
Assignment 08: Prototype Production 10%
Assignment 09: Prototype Presentation 10%
Assignment 10: Final Presentation 10%

Grad Definitions:

Grades are defined under Graduate Grading Legend. In addition to the NJIT's grading standard students at the HCAD must have a yearly 2.0 minimum studio GPA to proceed to the next studio year. Students who wish to pursue graduate studies in architecture or related fields should have a grade point averages of "B" or above as well as a compelling portfolio.

Absences:

After the 3rd unexcused absence every absence will reduce the final grade by half one grade. Arriving more than 15 minutes late or leaving earlier will be counted as ½ absence. By providing verifiable documentation through filing an online Student Absence Excuse Request form related to the absences within 14 days, a student can ask for accommodation and that their absences not affect their grade. Once the absence has been verified, the DOS will communicate with the instructor. Nonetheless, the DOS only verifies documentation, and it remains the instructor's discretion to provide any accommodation and the student's responsibility to follow up with the instructor. Accepted reasons for absence include bereavement, medical concerns, military activity, legal obligations, or university-sponsored events.

Academic Integrity:

Upholding academic integrity is a commitment to the pillars of honesty, trust, fairness, respect, responsibility and courage.

Learning and Teaching Culture Policy:

In addition to the overarching values and ethics of the university, the New Jersey School of Architecture is dedicated to optimism, diversity and solidarity, professional conduct, constructive evaluation and instruction, collaborative community, health and wellbeing, time management and school-life-work balance, respectful stewardship and space management, and well-rounded enrichment. The pedagogy of architecture and design is as complex as it is rewarding, and as dynamically evolving as the people who learn and teach it. This understanding resides at the core of the NJSOA Learning and Teaching Culture Policy.

Canvas and Kepler:

Students must upload copies of their assignments to the new KEPLER 5 system found under the KEPLER tab in CANVAS "Modules". CANVAS assignments folders are automatically ported to KEPLER, although students will need to initiate a separate KEPLER upload. The new KEPLER has an improved interface for easier batch uploading. Any file, regardless of file size, or type can be uploaded, although .pdfs and .jpegs are recommended to ensure viewability. KEPLER no longer has individual student folders. Rather, student work is now available for review in either "List View" organized by student or "Gallery View" with thumbnails of all work in an assignment folder viewable at once.

Academic Integrity:

Academic integrity and honesty are of paramount importance. Cheating and plagiarism will not be tolerated. The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students. All students are responsible for upholding the integrity of NJIT by reporting any violation of academic integrity to the Office of the Dean of Students. The identity of the student filing the report will remain anonymous. All students are expected to adhere to the University Code on Academic Integrity link and to the Code of Student Conduct. HCAD librarian Maya Gervits has assembled excellent resources for a students use on using images, citing, and plagiarism link.

Students with Disabilities:

OARS will notify professors via email with regard to students with approved accommodations enrolled in their classes. Student Accommodations will have to be signed and dated by each professor and returned to Chantonette Lyles (Chantonette.Lyles@njit.edu)

Wellbeing:

Taking care of yourself is as important as your other responsibilities to your classes, work, family and anything else that is part of your life. If you are struggling, please feel free to reach out to your instructor. NJIT has the Center for Counseling and Psychological Services (C-Caps) which is open and is offering online help.