

# SHELTER-IN-PLACE

Today we have two different of housing crises: housing without people, and people without housing.”

- Milad Hanna

## STUDIO AIMS AND OBJECTIVES

As architects, our commitment to the ‘health, safety and welfare’ of the public is fundamental to our practice, but often missing from our educational pedagogy in any material way. This sense of social responsibility and desire to improve society through the built environment when explored in the classroom, while well-intentioned, most often remains a theoretical hope only realized on paper. Although it is impossible for homelessness to be “solved” by architecture alone, a reluctance to engage with and design for this issue would represent a failure to interact with the real and pressing challenges facing the world (and on a more local level, Newark, NJ) today.

Root causes of homelessness are complex, and influenced both by individual circumstances and societal structures. In large cities it is not uncommon to see either animosity or ambivalence towards the homeless, fueled by misconceptions of how a person finds themselves without shelter.

In Newark, there are almost 100 available lots in the Newark Land Bank, and even more for sale privately; a staggering number when we consider the hundreds sleeping on the streets and thousands in temporary shelters. While the need for social housing grows in Newark, we watch luxury apartment towers rise across the Hudson River that are used as investment properties. This dichotomy presents a callous image of a market that rewards future profit over livability for all.

At the same time, alternative housing solutions are gaining momentum in the general consciousness. Tiny homes have become trendy instagrammable phenomena; ADUs (Accessory Dwelling Units) are increasing in popularity and legality in municipalities across the US - allowing for urban, ex-urban, and even sub-urban areas to densify (or re-densify); and the growing availability and accessibility of mass-production technologies has sparked a blossoming of modular home designs making use of CNC, 3D printing, and other fabrication technologies.

## STUDIO OUTPUT

In this studio, students will explore alternative solutions to affordable housing. Focusing on small modular structures that are multi-functional, easily deployable, adaptable over time, and responsive to climactic concerns at every step along the way (from sourcing materials, to transportation, to building performance, and finally end-of-life dissolution). The project will be site-less with a focus on creating systems that can be implemented in a variety of conditions in and around Newark.

The product of the studio will be a proposal that challenges the students to think at a range of scales and spheres of influence: from the details of materials, connections, and construction sequencing to the global systems in which housing operates: economic, social, and environmental.

**THIS IS A DESIGN-BUILD STUDIO: We will be physically prototyping and fabricating large scale, 1:1 mock-ups. The goal of this studio is to fabricate a full-scale, fully functional, V1 prototype structure.**

# SHELTER-IN-PLACE

ARCH 463, 464, 563 - OPTIONS STUDIO

Fall 2021

Studios meet M/Th 11:00-4:50pm

Instructors:

Erin Pellegrino	Charlie Firestone
erin@studio-matter.com	charlie@studio-matter.com
(908) 216-1660	(207) 376-7383

Office Hours:	Virtual Office Hours by appointment
Grading:	The American Letter System, from A to F.
Delivery Format:	In-Person

## I. RATIONALE:

In this studio we are looking towards the future of architecture (and architects) while going back to the basics. We believe that the best way to learn is by making, and that every architect should have experience building a structure that they design. We also believe that architects have a role and responsibility towards creating a more sustainable and more equitable future. One in which shelter is accessible and attainable for all.

## II. COURSE AIMS AND OBJECTIVES:

### Aims

In this studio we will be considering every detail of the shelter. We will be working as a team to design and construct the best shelter(s) we can within the restrictions we have. By the end of the semester we should be able to walk into a structure that we built with the satisfaction of a job well done, the confidence to design and build more, and all the urgency and excitement that we will need to tackle the challenges of the future.

### Specific Learning Objectives:

- Analytical and critical thinking skills (organization of information)
- Graphics skills (visually communicating ideas, systems, process, and program)
- Fundamental design skills (ordering systems, generative use of diagrams)
- Conceptual thinking
- Model making techniques (communication of ideas through precise physical models and digital models)
- Collaborative skills
- Fabrication skills

## III. FORMAT, PROCEDURES:

The studio is a ferment of activity, a cauldron of common purpose, where as much is learned from each other as from your professors. Grading is based on how willing you are to release the talents within you, your commitment to the continually iterative prototyping process of concept development and design execution, your contribution to the intellectual and practical well-being of the class and understanding the importance of camaraderie - AKA mutual support and teamwork. In addition to the roadmap of where we, the studio is going, each assignment will be based upon the accomplishment of the previous. Goad-sticks and carrots will be deployed in equal measure, to maximize productivity while optimizing school-fee VFM. Tuition (in-state) at NJIT is 17,674 USD. You are paying somewhere around 500/class. If you don't give your all, you're squandering this value.

### GRADE DEFINITIONS:

<https://www.njit.edu/registrar/policies/grading.php>

In addition to the NJIT's grading standard students at the CoAD must have a yearly 2.0 minimum studio GPA to proceed to the next studio year.

**GRADING KEY:**

Attendance: 10%  
EX01: 10%  
EX02: 15%  
EX03: 15%  
EX04: 50%

**DELIVERY MODE:** In-Person

**IV. STUDIO CULTURE:**

For a studio to be a successful experience for student and teacher alike, an atmosphere of mutual trust must be established. The key to this, we believe, is the establishment of open communication at the outset of each studio and the recognition by all parties of a set of core principles that describe the studio experience: professionalism, collegiality, and solidarity.

**While this semester guarantees nothing but to be unpredictable, you can expect from us the following:**

We will push you to move out of your comfort zone, to see the world around you differently, and to hone your craft and communication as young architects in both analog and digital methods. We will do all we can to work with each of you on your individual strengths and weaknesses, as well as to foster a collective dialog within our studio around the issues we face within this studio and as architects within the world.

**We expect from each of you, the following:**

to be on time,  
to work hard,  
to work independently and collaboratively,  
to ask questions,  
to participate,  
to critique one another constructively,  
to and push yourself to get better with each doodle, sketch, diagram, drawing, and model.

Finally, your health, safety, and well-being matters, as does ours. This is our studio, our space, and our semester together. We must be hyper-respectful and acutely aware of one another and everyone's unique circumstances. This is a stressful time, and it will likely just get worse as the semester continues to unfold. The hope is that our work will be a welcome distraction for anxious minds and idle hands; however, when appropriate, please communicate with us your needs and struggles so we can be sure that you can be the best possible student and best possible human you can. This is particularly important when it pertains to absences and deliverables. We will endeavor to be as flexible as possible, and will ask for your understanding as well as we all navigate this time.

For the full NJIT HCAD studio policy please see [link to Kepler](#).

**V. OUR ASSUMPTIONS**

Ideas are the fleeting opioid of design. It is the messy, conversational magic of prototyping and finish work that gets an idea to the point where others can understand the ideas within you. Did we say the word Craft? Well, not exactly, but without having a nose for it, and an elbow to set it in motion, not much of consequence gets done.

**VI. REQUIREMENTS**

1. Class attendance and participation policy:

To be late to a group (or leaving early) is tantamount to stealing time from your fellow students. To remain silent leaves your colleagues in a state of perpetual wonder as to what you are really thinking about, and it mucks up the rapport and purpose of open communication and discussion. Punctuality, politesse—perhaps even wit—and saying anything in public and being ready to listen to an opposing points-of-views lie at the core of developing mental acuity.

That being said, studio is a group-based learning experience. Your absence both from class and from the working hours outside class time within studio is a detriment to yourself, and the group as a whole. In summation: Do not abandon the flock and the flock will not abandon you.

2. Course readings/listenings/media/musings:

To be distributed throughout the semester as we deem necessary.

**VII. SUGGESTED READING & REFERENCES:**

*At Home: A Short History of Private Life*, Bill Bryson

## VIII. SCHEDULE:

### Week 01 - Sept. 2

Th - Intro, EX01 Assigned

### Week 02 - Sept. 8 & 9

W - EX01 Working Day / PJ01 (in-class)  
Th - EX01 Presentations, PJ02 Assigned

### Week 03 - Sept. 13 & 16

M - PJ02 Presentations, EX02 Assigned/Working Day  
Th - EX02 Charette Day

### Week 04 - Sept. 20 & 23

M - EX02 Review, EX03 Assigned  
Th - EX03 Working Day/ Desk Crits

### Week 05 - Sept. 27 & 30

M - EX03 Working Day  
Th - EX03 Working Day/Desk Crits

### Week 06 - Oct. 4 & 7

M - EX03 Working Day/Desk Crits  
Th - EX03 Working Day/Desk Crits

### Week 07 - Oct. 11 & 14

M - PENULTIMATE DESIGN REVIEW  
Th - EX03 Working Day/Desk Crits

### Week 08 - Oct. 18 & 21

M - EX03 Working Day/Desk Crits  
Th - MIDTERM REVIEW with STAKEHOLDER

### Week 09 - Oct. 25 & 28

M - EX04 - Prep for Fabrication  
Th - EX04 - Prep for Fabrication

### Week 10 - Nov. 1 & 4

M - EX04 - Fabrication  
Th - EX04 - Fabrication

### Week 11 - Nov. 8 & 11 - (Nov. 10: Last Day to Withdraw from Class)

M - EX04 - Fabrication  
Th - EX04 - Fabrication

### Week 12 - Nov. 15 & 18

M - EX04 - Fabrication  
Th - EX04 - Fabrication

### Week 13 - Nov. 22 & 25

M - EX04 - Fabrication Completion  
Th - THANKSGIVING - NO CLASS

### Week 14 - Nov. 29 & Dec. 2

M - EX04 - Finishing touches & Presentation prep  
Th - EX04 - Finishing touches & Presentation prep

### Week 15 - Dec. 6 & 9

M - Final Review, TBD  
Th - Final Review, TBD

## ARCHIVING STUDENTS WORK:

All students have to submit all their work for review and archiving to their instructor. Students also have to upload all final requirements for the entire semester on Kepler. Please ask your instructor for the specific format. In addition students might be asked to provide individual images, drawings, renderings or photographs of models (No composed boards – just individual images) in the “Featured Works” folder on Kepler:  
File type: pdf or jpg (260dpi, 8”/11.5” horizontal or vertical)  
File name: Student’sFirstName\_Student’sLastName.  
Link to Kepler will be provided.

## ATTENDANCE AND TARDINESS POLICY

**Excused Absences:** Are for medical and religious reasons or pre-approved for student-athletes only. An absence due to illness can be excused if the student has filed official documentation (licensed medical practitioner including NJIT Health Services) with the Office of the Dean of Students. The Office of the Dean of Students will, in turn, notify the instructor(s) that appropriate documentation has been received and confirmed, and detail what accommodation is warranted. These accommodations may range from identified dates for excused absences (normally for temporary illness) to extra time for projects and assignments (for ongoing medical issues).

**Unexcused Absences:** Students will be penalized half a grade for each absence after three unexcused absences. The instructor is under no obligation to repeat any missed information or provide access to lecture notes or presentation materials to students who arrive late. Yet it remains the responsibility of the student to learn the material presented.  
[Attendance Policy for Undergraduate Students.](#)

## 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 and to the Code of Student Conduct.  
[Dean of Students](#) | [Academic Integrity](#) | [Student Conduct](#)

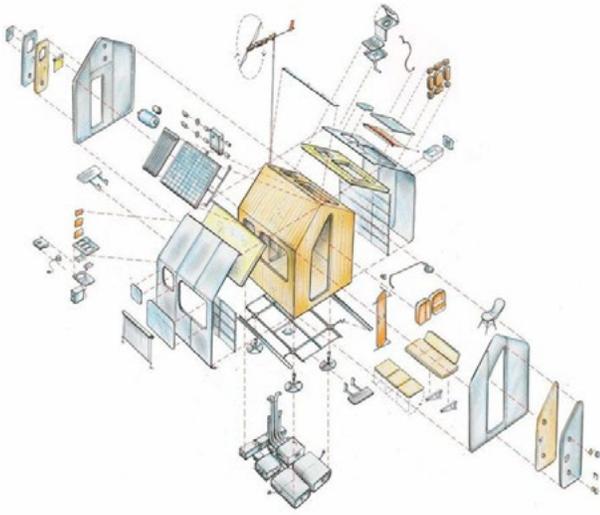
## PLAGIARISM

It is extremely important that students familiarize themselves with a proper way to cite visual and intellectual sources. Plagiarism whether deliberate or inadvertent simply cannot be tolerated. Simply put, plagiarism is the use of visual or intellectual material created by others without proper attribution. Even the use of one’s own material for more than one assignment can also be considered plagiarism. Students should not do so without the expressed consent of all instructors involved. Our librarian Maya Gervits has assembled [excellent resources on copyright, citing, and avoiding plagiarism.](#)

## STUDENTS WITH DISABILITIES

It is the school’s moral, ethical, and legal obligation to provide appropriate accommodations for all students with physical and/or learning disabilities. If students need an accommodation related to disabilities, all official documentation must be filed with the Dean of Students and the Disability Support Service Office. It is the responsibility of the student to notify the instructor at the beginning of the semester if accommodations are warranted.  
[Disability Support Service](#)

# EX01 - LINES OF INQUIRY



## DESCRIPTION

In this studio we will be developing proposals for small-scale affordable homes. There are many ways to approach the topic, and lots of work that has been done in this field so far. Your first task will be to thoroughly research, document, and present case studies, along one of the following lines of inquiry as it relates to the studio's mission:

1. ADUs (Accessory Dwelling Units)
2. Homelessness
3. Emergency Responsive Housing
4. Prefab Construction Methods & Modular Housing
5. Tiny Homes & Cabins
6. Mobile Architecture & Vehicular living (sail boats, RVs, submarines, etc.)
7. Vernacular structures

Questions you should seek to address could begin with (but are not limited to):

- What work has been done so far (by architects or others) related to your line of inquiry? And how successful was this work?
- What is the historical context surrounding your line of inquiry and how does the history and politics surrounding the topic influence the work being done in the field currently?
- What (if any) are the legal restrictions, regulations, and policy developments surrounding your topic (especially in Newark)?
- How does your line of inquiry relate to issues surrounding sustainability and environmental impact?

You will be working in teams of two. Your presentation should be informative, organized, engaging, and well-rehearsed. As a studio, we are seeking to understand (as fully as possible) the context within which we will be operating.

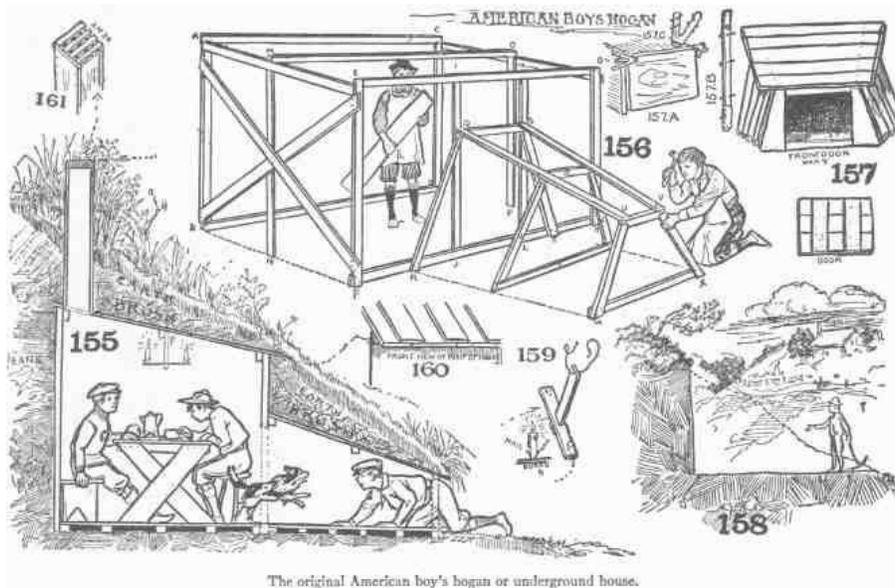
## DELIVERABLES:

(1) Resource book section per group (using the pre-made indesign template).  
Your section should include an overview of your topic (addressing the questions outlined above), and 4-6 case studies related to your line of inquiry. Each case study should include photos, drawings, diagrams, and a concise description. Overall, your resource book section must include a minimum of (2) original, analytical drawings.

In-Class Presentations: September 9th

Following the presentations, final sections will bound together and printed as a resource book for the studio to use during this semester (and beyond).

# SHELTER-IN-PLACE PROTOTYPE



## MANDATE

Your charge this semester is to design and build a small, prototype home to house a homeless individual living in Newark. The home should be affordable, adaptable, aggregatable, replicable, and responsive to climactic concerns at every step along the way (from sourcing materials, to transportation, to building performance, and finally end-of-life dissolution). The project will be site-less with a focus on creating systems that can be implemented in a variety of conditions in and around Newark.

## DETAILS

**PROGRAM** for the home must include a sleeping surface, a task surface (for eating, writing, etc.), and the ability to foster social engagement. This module will not include plumbing.

**BUDGET** for this project should not exceed \$7K. Students will be responsible for tracking the budget and sticking to it.

**DIMENSIONS** are not to exceed an 8'x12' footprint and 10' maximum height.

**MATERIALS** should be limited to standard, off-the-shelf construction products available at Home Depot, Lowes, or other hardware stores. Students will be responsible for sourcing and procuring the materials of construction. Students are encouraged to seek out and source additional material donations if possible.

**FABRICATION** is to be completed on NJIT premises. The home should be able to be erected and secured on site in one day, with no more than one-week of work required on site to complete any finishing touches. After the home is assembled, it must also be able to easily be moved safely and practically.

## DELIVERABLES

- (1+) Built prototype home
- (1) Set of Construction Documents
- (1) Presentation explaining the design and construction process of the prototype