

Architecture Studio: 2nd Year Fall

Fall 2011, CMU, Arch #48-200, M/W/F 1:30-4:20

Class Website: www.andrew.cmu.edu/course/48-200

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Off. Hr: M/F 12:00-1:00pm & by appt. in MM302

(9/2/11)

PROJECT 1 – BUILDING SHELTER

PROJECT: Your charge is to design and construct a small structure to shelter students overnight and during inclement weather at “The Fence.”

- GOALS:**
- 1) To imagine, build and inhabit a space you and a group make together out of real construction materials: a hut of your own.
 - 2) To foreground the act of making and construction as a fundamental part of architectural design thinking;
 - 3) To see architecture as structure made of distinct material components that are assembled to create space and experience.
 - 4) To draw out intuitive and embodied knowledge about materials, space, and assembly through visceral experiences at 1:1 scale
 - 5) To introduce common construction materials & framing techniques
 - 6) To explore the fundamental elements of architecture (e.g. wall, roof, window, threshold, etc.), and highlight how these elements and the materials of which they are made are joined together creatively.
 - 7) To understand tight constraints as positive forces that help shape the design process, solve problems, and enhance creativity.
 - 8) To consider reuse, recycling, and lifecycle as design inspirations
 - 9) To understand the power of group work, collaboration & teamwork.
 - 10) To build on, and provide continuity from 1st year studios

PHASING: The project will be divided into several discrete, carefully choreographed phases and exercises that link closely to each other.

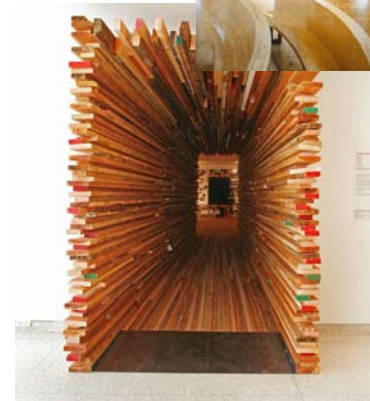
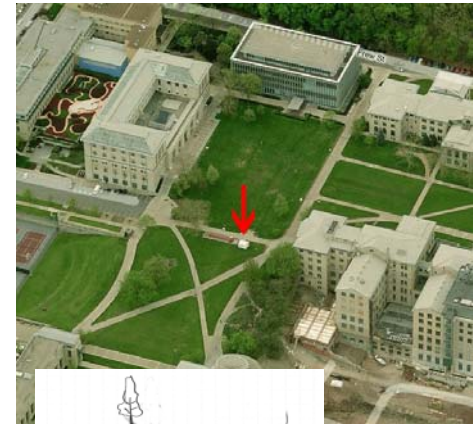
- 1) It will begin with individual, exploratory design work, and several exercises to introduce some of the materials and fundamental design and composition problems of this project.
- 2) We then move on to collaborative teamwork for the final designs of a series of shelters, begin mocking-up portions, and finish construction.
- 3) The shelters will need to be portable and reconfigurable so that they can be set up in various locations and in various arrangements, and thereby live on past the final review.
- 4) Alongside the process of designing, working with real materials, and constructing the shelter, you will be introduced to Revit, a 3D modeling software, through tutorials and professional training sessions
- 5) For Proj.2 this semester, you will use Revit to draw the shelter you made. We will use Revit not as a design tool, but as a tool to help represent and reveal potential in the shelters not possible at 1:1.

ASSIGNMENT 1A: (for Wed. Aug. 31)

- Read Gaston Bachelard's The Poetics of Space
- Read carefully the “constraints” for the Fence Shelter project outlined on p.2 of this handout. Find the opportunities latent in the constraints.
- Design at least one shelter for the Fence within these constraints
- Document your process carefully through drawings; carefully distinguish the many different ideas you have.
- Obtain feedback and critique from at least two classmates, and draw their critiques, as diagrams, or alternative schemes. Avoid words.
- You may represent your shelter design in any medium you feel most strongly and appropriately represents the strength and richness of your ideas. Be sure your presentation works without written or spoken words

ASSIGNMENT 1B: (for Fri. Sept. 2)

- After feedback and discussion in studio, iterate and intensify your process, and present at least two well-developed shelter designs, each with a precise list of materials, and ideas on how to connect to others.



CONSTRAINTS: PROGRAM

- A small, memorable space that sits gently on the earth near the Fence in which to escape weather, to seek shelter, to establish community (all fundamental problems of architecture)
- A dry sleeping space (stretched out & horizontal) for 2 people
- Access: users/visitors must be able to walk into the space easily (no crawling, climbing...)
- Your design must speculate on and enable life for the shelter after the final review, through exhibitions, adaptive reuse, material reuse, recycling, disassembly, etc. What happens to it after you're done?



CONSTRAINTS: COMPOSITION

- All projects must come apart:
 - to allow for phased construction
 - for ease of transport
 - for ease of setup and demounting
 - to allow multiple configurations
- All projects must link up with neighboring projects (like a row house, no stand-alone sculptures)
- Neighbors and the entire class must collaborate on connections and carefully design the spaces in between the individual shelters
- All projects must work in multiple configurations (partially assembled, pairs, groups of 4, or 10 in a row)
- The entire class must collaborate to ensure a coherence or unity to the assembled structures. They must form a coherent whole, such that the whole is greater than the sum of the parts. They should NOT be just an agglomeration of individual designs.



CONSTRAINTS: MATERIAL LIMITS

- A maximum quantity of the following materials will be set (TBA):
 - 1/4" plywood for enclosure
 - 1/2" plywood (comes in 4ftx8ft sheets) for floor, roof & shear
 - 2x4's for structure & construction (can be cut any way)
- Canvas for flexible enclosure (can be painted or colored)
- Screws hinges, bolts, hardware only. NO NAILS
- No glue, paint, caulk, etc.
- Foundation material/technology for leveling on various sites
- NO other materials
- In order to limit scale and waste of materials, and to encourage efficiency, each shelter must fit into a maximum volume of 8ftx8ftx8ft.



CONSTRAINTS: MULTIPLE SITES

- Construction occurs off site (in wood shop, Donner ditch, tennis court balcony, studio, etc)
- Final review site is at "The Fence"
- Project must acknowledge solar & site orientation at the Fence, but also function effectively in other orientations and configurations.
- Shelter must work well in various exhibition sites around campus, and around town, and in multiple configurations
- Be sure your project can tolerate sites with varying slopes
- At least one site will allow all projects to be assembled into single, all-studio configuration
- Speculate about a final resting place for your project.

