



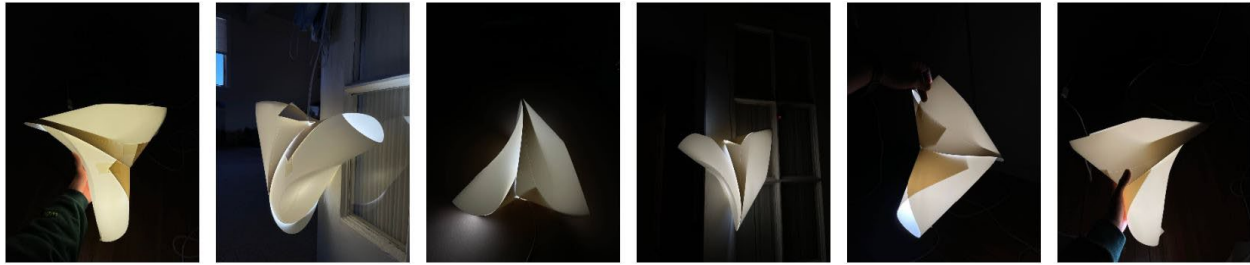
Carnegie Mellon University

School of Architecture

College of Fine Arts, CFA 201

Carnegie Mellon University

Pittsburgh, PA 15213



Student work from S22_Dickson Yau

48-545/745: Design Fabrication

Units: 6

Instructor: Joshua Bard

Course Objectives

Design Fabrication is a project based seminar exploring the application of Computer Aided Manufacturing (CAM) in architecture. The course meets in the School of Architecture's Design Fabrication Lab (dFAB), which serves as a context to better understand the interconnected affordances of building materials, machine processes, and modeling software for design thinking. During the semester students receive hands-on introductions to dFAB equipment, including laser cutting, cnc routing, and 3D printing. Concepts will be explored and tested through iterative making/prototyping.

Course Focus

The course focuses on Transdimensional Fabrication, a manufacturing framework that forefronts design thinking across space and time. A growing array of approaches in contemporary architecture are motivated by this focus (e.g. flat pack, 4D printing, metamaterials, kinetic architecture, robotic origami, design for disassembly, etc.). We will investigate Transdimensional Fabrication concepts through three that forefront design translations: 2D → 3D, Space → Time, Assembly → Reconfiguration → Disassembly.