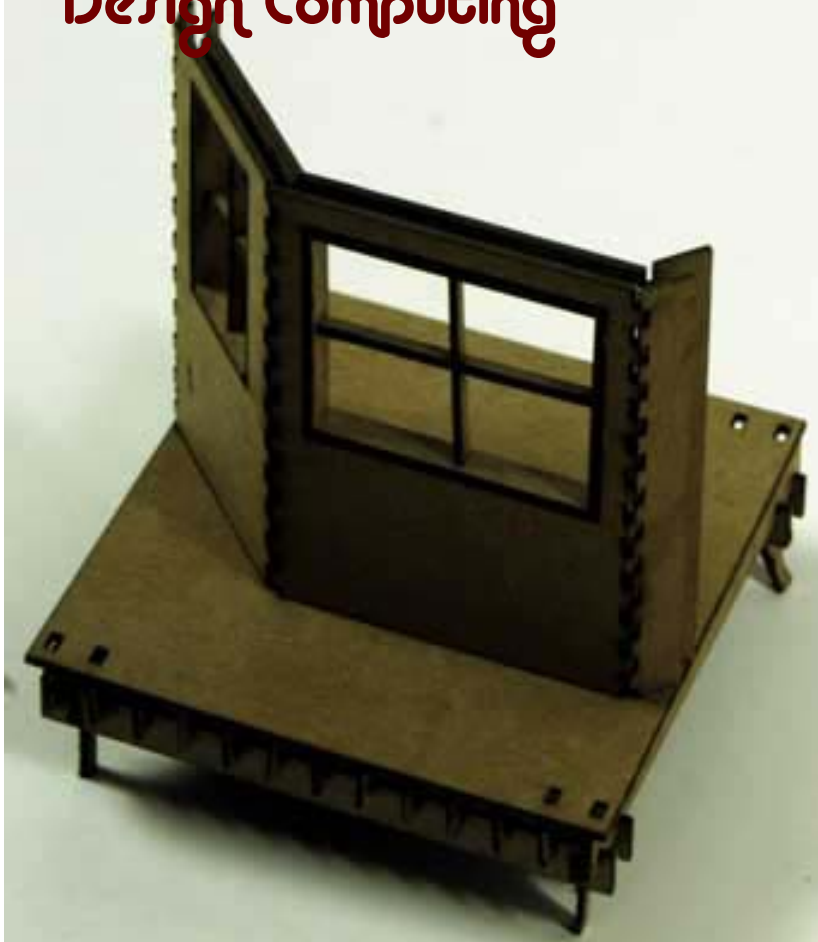
4.500 Introduction to Design Computing
Fall 2008

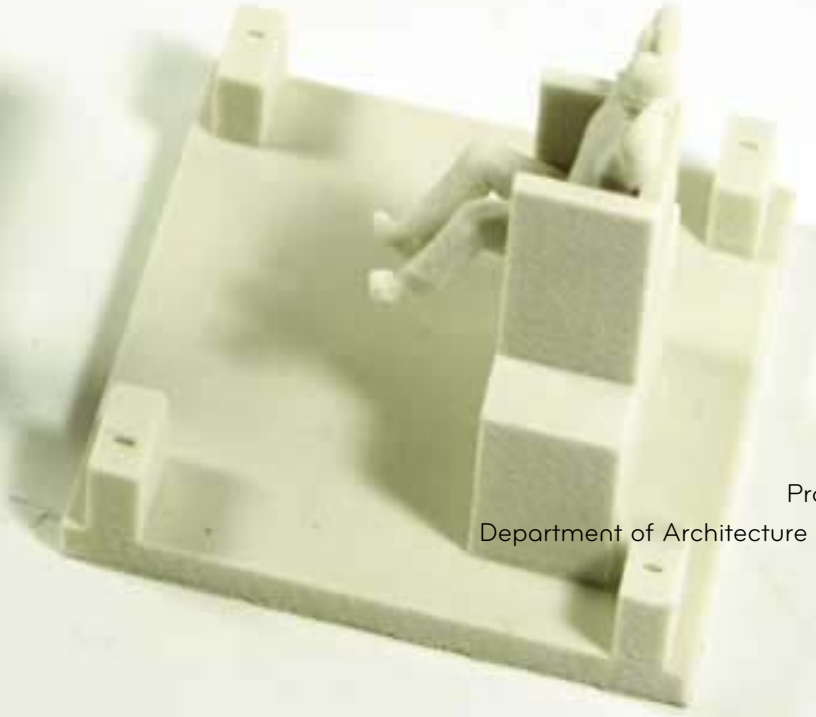
4.500

Introduction to Design Computing

Lecture 1

Course Overview





Prof. Larry Sass
Department of Architecture and Planning

MIT

[1] Architectural Design Process

[2] Design

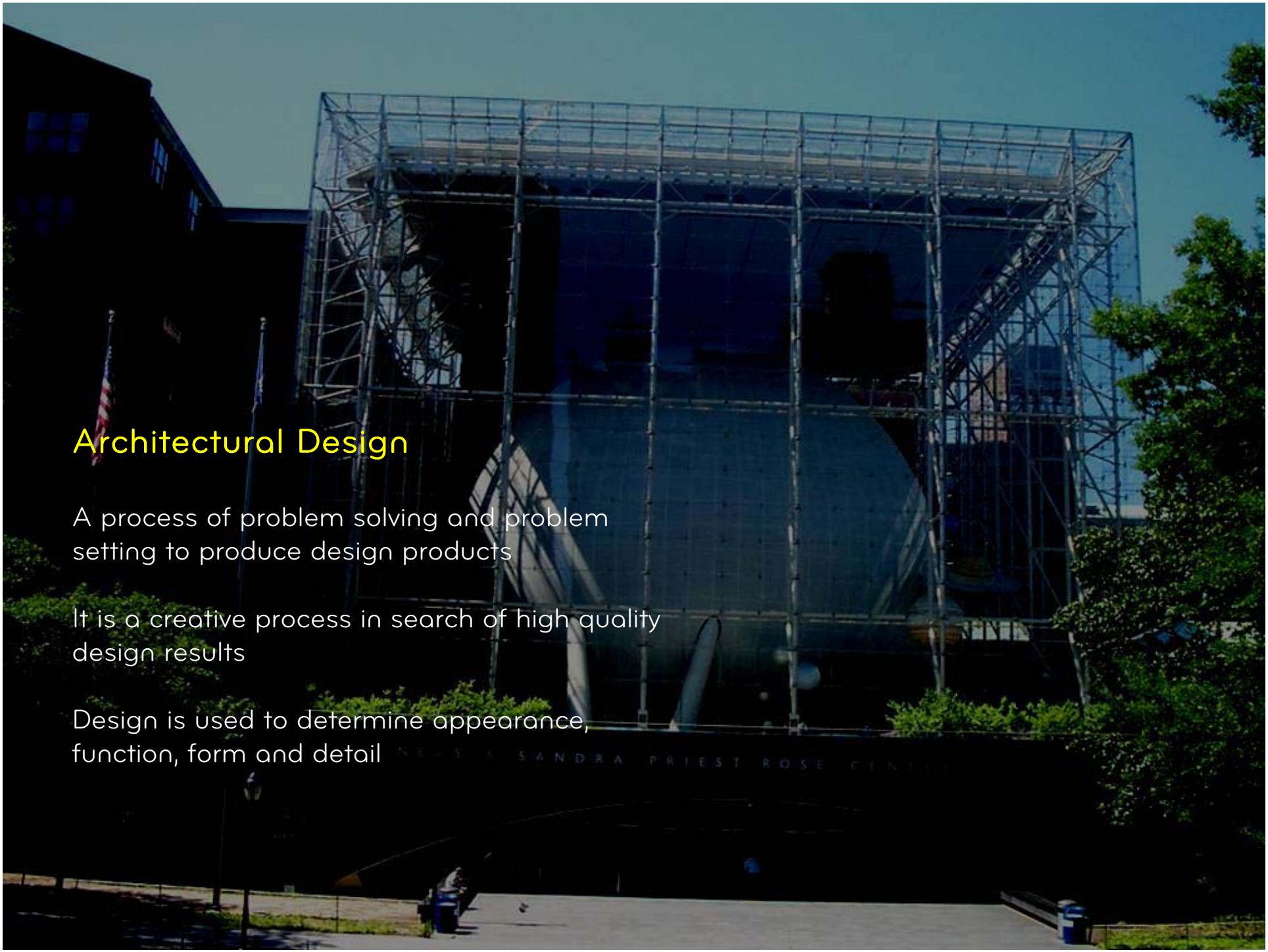
[3] Computers in the Field of Architecture

[4] CAD

[5] Designing a Cabin on the Beach

[1]

Architectural Design



Architectural Design

A process of problem solving and problem setting to produce design products

It is a creative process in search of high quality design results

Design is used to determine appearance, function, form and detail

Design:

PROBLEM SETTING = Idea Building

Design:

PROBLEM SOLVING = Subdividing
Ideas into Constructible parts

[2]

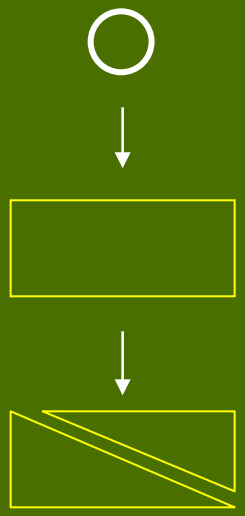
Creative Design

Creative Process

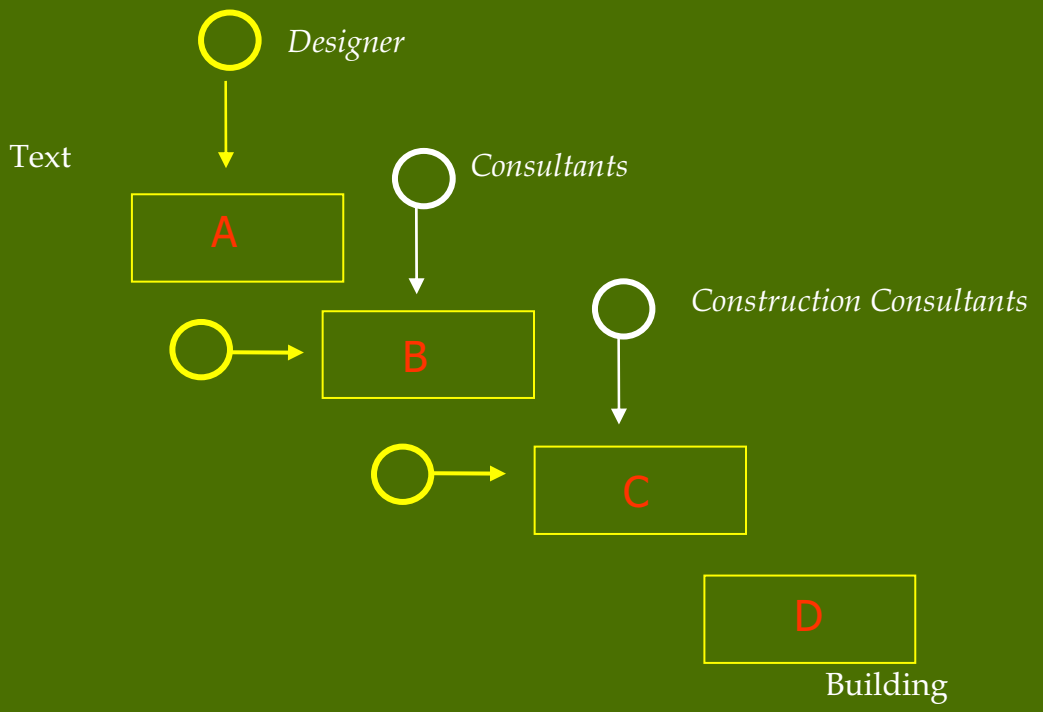
Object Creation
(Physical Model)

Reflection/View
(Discussion Around Model)

Manipulation/Change
(New Physical Model)

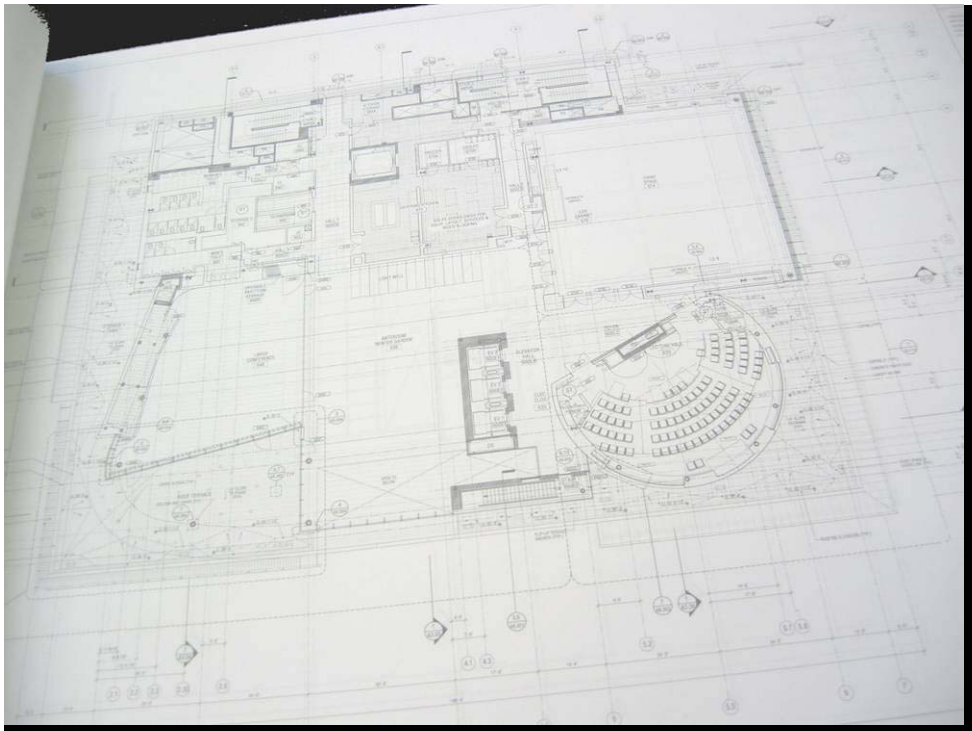


Creative Process



[3]

Computers in the Field of Architecture



Computers

Architects use computers to create documents and build

Sometimes renderings

On occasion build – digital fabrication

DRAWINGS

MODELS

DATA

VISUALIZE

ANIMATION

DIGITAL FABRICATION


Haras & Haras
Stata
Garage

[4]

CAD

Types of Documents (CADD)

CAD DRAWINGS ARE FOR:

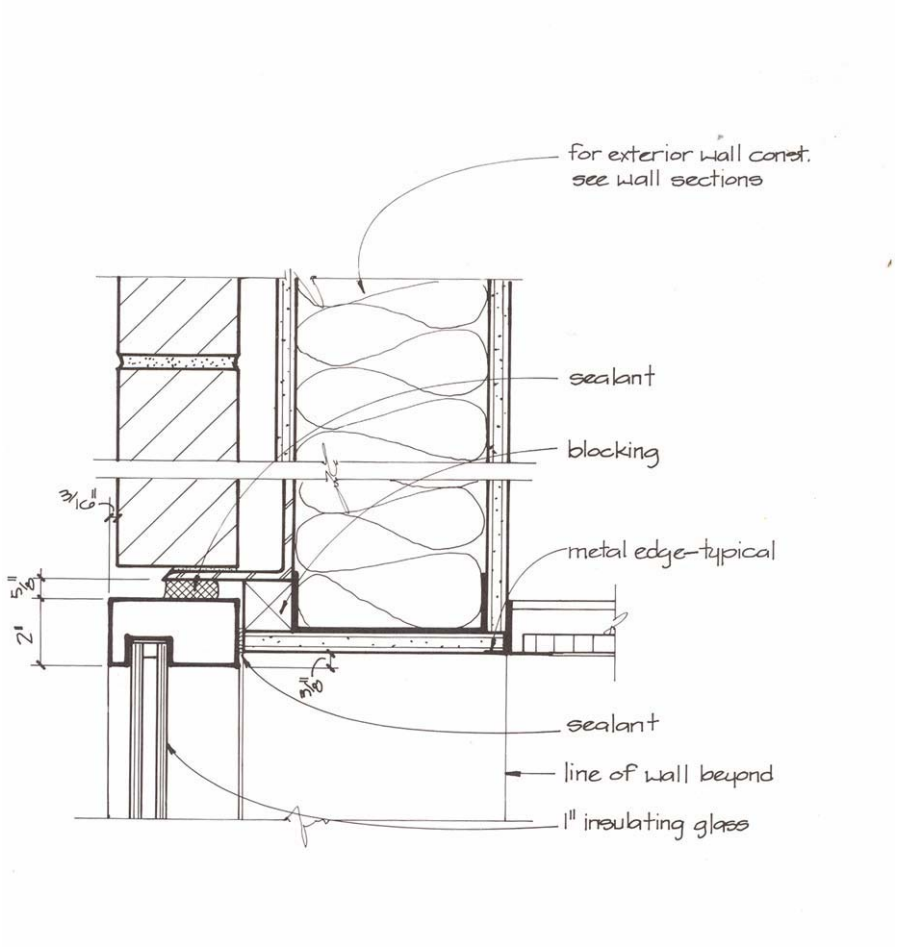
Sketches

Drawing

Models

Renderings

CAD files for building

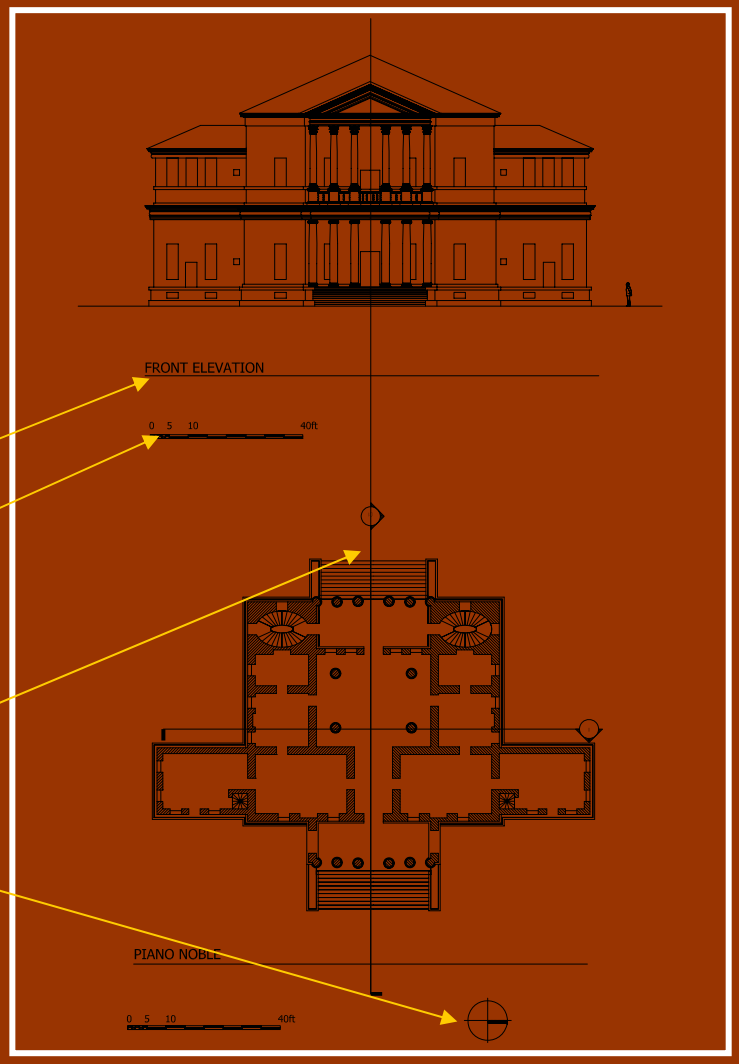


DESIGN DRAWINGS

Lines Close

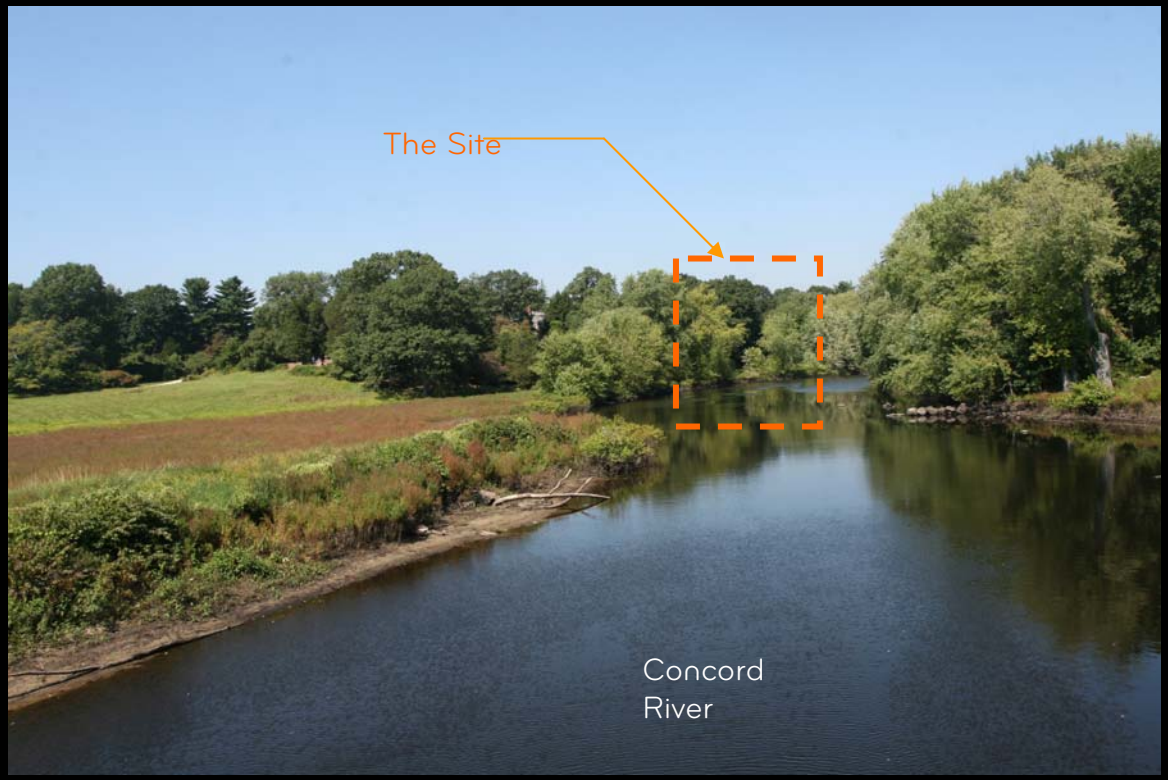
Lines are broken into categories or layers

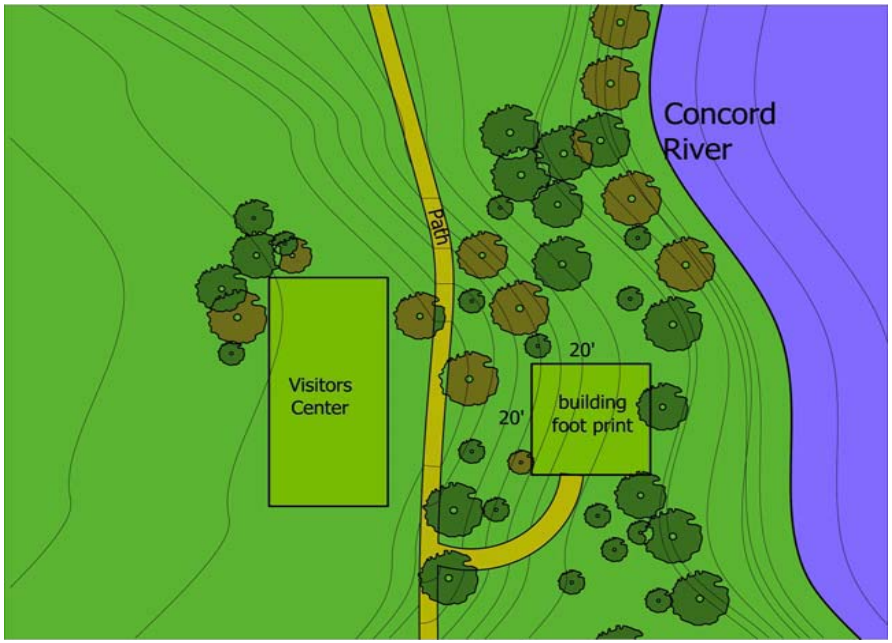
Accuracy counts



[5]

Designing a Cabin


The Site
Concord
River


Concord
River
Path
Visitors
Center
20'
20'
building
foot print

BEACH COTTAGE

- High ceiling helps keep indoor air cooler
- Balconies provide sheltered areas for work and relaxation
- Big windows allow for ample views of the scenery
- Full kitchen for self-sufficiency
- Daylight is controlled for plenty of light but not excessive heat gain

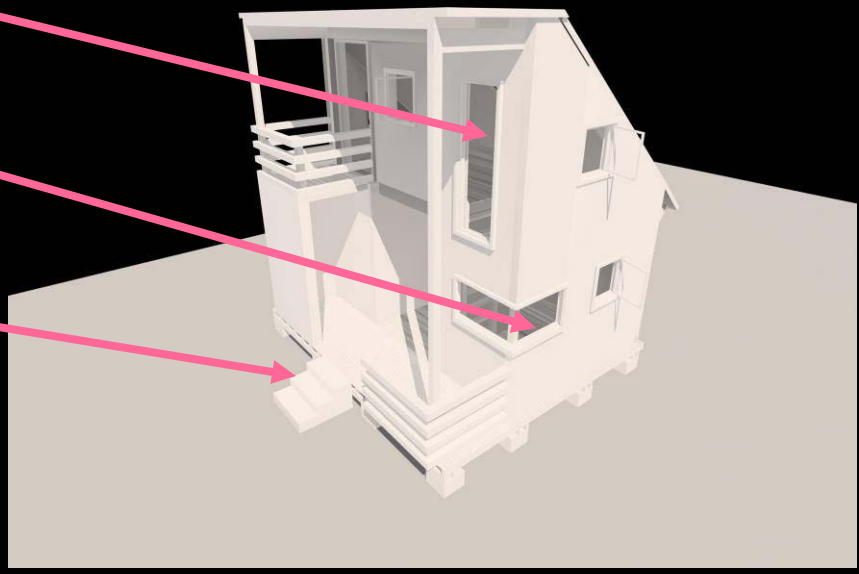
•Covered exposed joists with a surface to diffuse light from new window

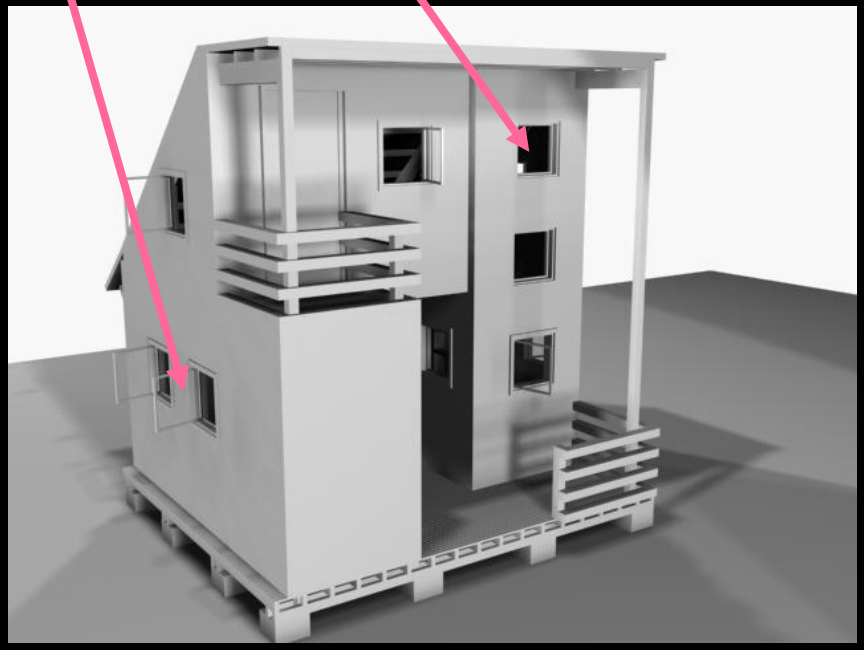
•Corner window by the desk for better views

•Added Steps

•Bigger window

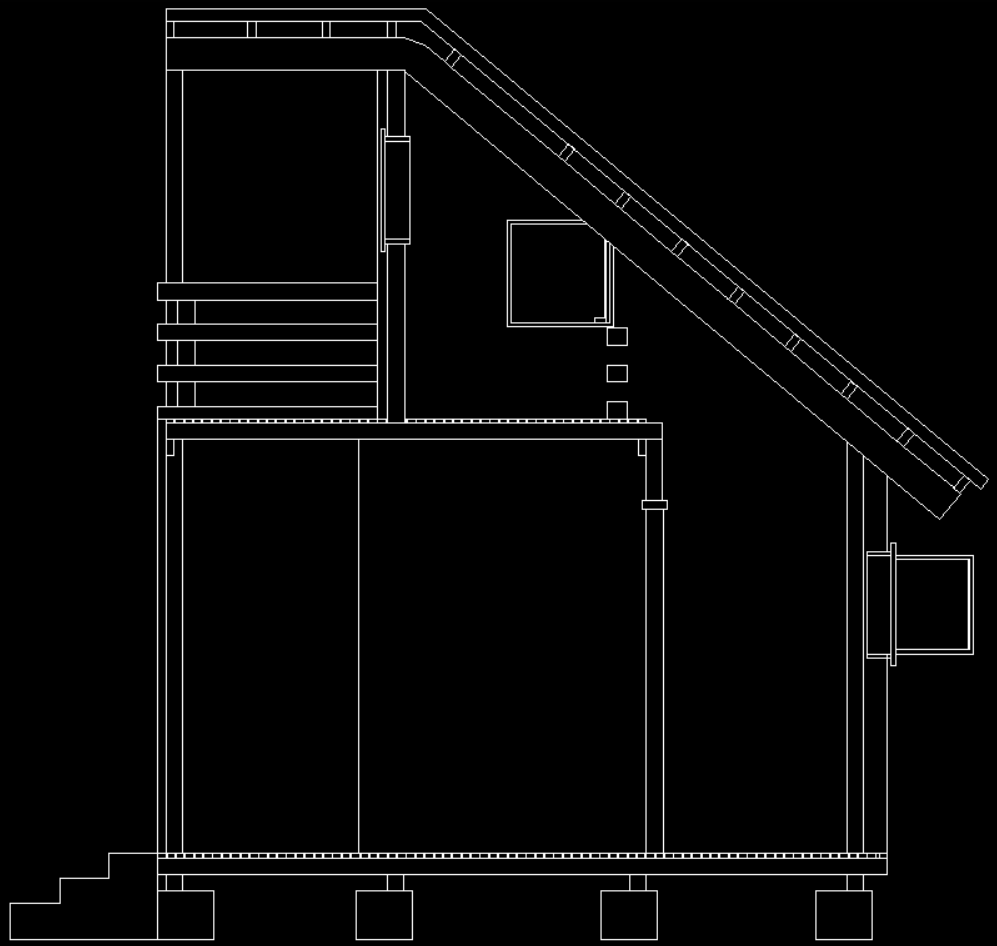
•Removed window from the kitchen

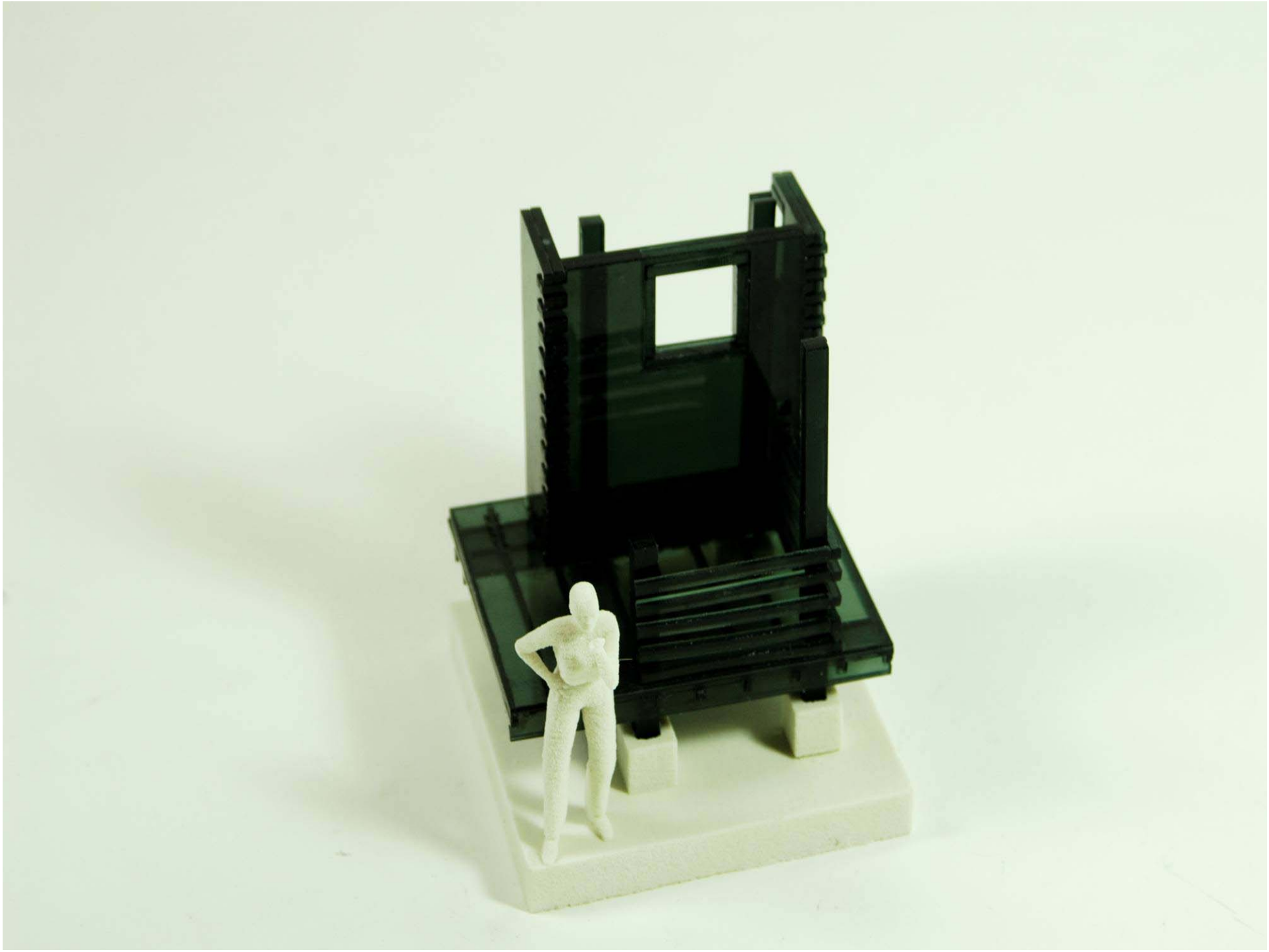




Major Changes

Section Cut





Project Presentation Exam

1. Description
2. Site Plan
3. Floor Plan
4. Elevation
5. Section
6. Rendering Axonometric – Monochrome
7. Rendering – Texture Mapped*
8. Model Section - Detail – 1:6
9. Model Section - Detail 1:1
10. Rendering Detail – Monochrome*

*Optional

- Project Exam is a paper turn in and a slide presentation