MIT OpenCourseWare
http://ocw.mit.edu

4.500 Introduction to Design Computing
Fall 2008

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.

Designing a Cabin
Project Description, Site plan & Floor plan

September 9, 2008

Assignment #1

This assignment is due in lecture and Stellar, Tuesday, September 16

PROJECT: You have been asked to submit a proposal for a writer's cabin to be built on the Concord River ½ mile from the North Bridge (Figure 1). The town of Concord Massachusetts is known for it's of great writers such as Henry Thoreau, Nathaniel Hawthorne as well as the great poet/philosopher Ralph Waldo Emerson. Thoreau was famous for building a small writing cabin on Walden Pond (Figure 1), he also write the famous text entitled "Walden".

SITE: The cabin site is on the Concord River, a marshy water logged site. Brush will be cleared to make room for the small writers cabin how ever the design goal is to make the cabin a part of the landscape. Your job is to propose a new cabin to be used by a writer for two weeks maximum. For the final you will compete against others in the class for best proposal and a commission to build your cabin (in theory). Your proposal must come complete with built in furniture for one person to relax and work for two weeks. The total cost of materials (Plywood, studs and concrete based) should be no more than $30,000. No McMansions here.

PROGRAM: The cabin must to include small amenities for one person to eat, sleep and relax for two weeks. This project will last the full length of the term and is expected to be beautiful, appearance and presentation style count. For cabin design learn how design the project from other architects work. Read through magazines and books on cabin and small house design. Take notes and use the best concepts as a base for your ideas for each weeks study.

GRADING: You will be graded on the quality of your design, quality of the representation as constructability of physical models and the visual beauty of virtual images. You will loose points for poor design, sloppy computer modeling, rendering and poor construction.

BUILDING STYLE: Since the course does not focus completely on design the cabin style is can be anything from early colonial to high tech modern. This assignment requires that you build one document of 3 pages and submit the document to the Stellar Website as one pdf file.

Figure 1 Image of the site from the North Bridge & Thoreau's cabin on Walden Pond.

PROJECT NOTES

- Maximum Interior Square Footage   400' square feet

- Materials   Plywood – ¾" & ½", Sprayed insulation & Plastic

- Ground material   Marshy

- Footings   Concrete

- Site Access for Construction & No Electricity on site – By Boat ONLY

PAGE ONE: PROJECT DESCRIPTION

Write one paragraph describing the design goals for the writer's cabin. Your writing should be thoughtful of the place with design comments based on spiritual, functional and visual issues. For example, "windows in the cabin are placed along the side of the building facing the river". When writing ask yourself why would a town take interests in your design project? Summarize your cabins functions; what you think is should do? What is its appearance? Describe the spirit of the place. Include a hand drawn sketch scanned (sketches get higher grades) and placed on the introduction page with your text *or* a photo that you have downloaded from stellar.

Down Load – JPG Images from Stellar

To Do – Page 1

1. Using MS Word Create a Document and save the document as Assignment _1.doc
2. Title Page must include your name, the class, the paragraph and an image
3. Design the page so that it has some visual appeal remember, this cover sheet will ultimately serve as the introduction of your design proposal to the City of Concord. Create clear graphics for all assignments. Over done graphics will hurt your grade, be clear, bold and exciting.

Figure 2 sample image of the site.

PAGE TWO: SITE PLAN DRAWING

Use the site plan from the stellar as your guide. Your goal will be to communicate in diagrammatic form design ideas (problem setting) that enhance or take advantage of site and programmatic features. For example, you can include a porch that may want to face the beach. Include that and make sure to note the porch with text.

Down Load - AutoCAD Site Plan from Stellar (AutoCAD Site Plan Drawing)

To Do

1) Analyze the site plan for natural elements then document for yourself three key features or inventions you can take from the site to be used to shape or order your building program. "Be Creative, bold ideas count"
   a. With large arrows define the **wind direction**
   b. With another type of arrow approximate **suns rays** at 9am, 12noon and 6pm
   c. With another type of arrow show the most **important view**(s)
   d. Insert a roof plan drawing of your house, it should be abstract!!!!

2) Use **arrows**, a **north arrow** and **notes** to describe key features

3) Design a boarder and title in paper space – **your name, the class number, assignment #**
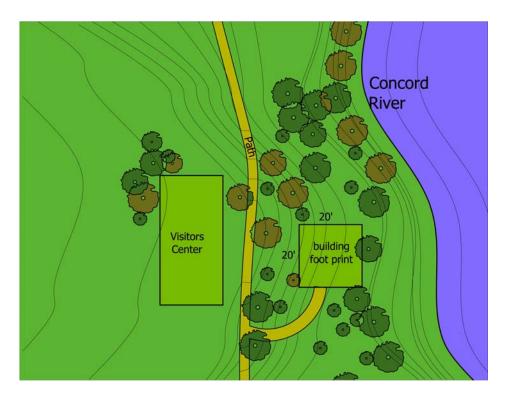

Figure 3. Site drawing with your foot print (roof plan)

PAGE THREE: FLOOR PLAN DESIGN

In AutoCAD you will have to create a floor plan drawing of your space, this includes a living space and bathroom. Identifying walls, windows a door, steps to get into the room if necessary and furniture. Use arrows and text where need be to describe special features or interesting points on the floor plan. Name spaces and scale spaces to their appropriate size, in other words a bathroom should be scaled on your drawing to 5' x 6'.
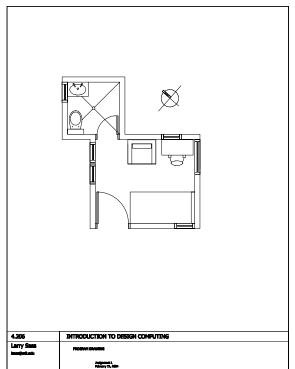
Building Program – 400sf. Maximum (20' x20')

a. Sleeping space – could be a small bench or sofa bed

b. Reading space

c. Painting space

d. Toilet, Sink

e. Entry

Down Load – AutoCAD Symbols from Stellar (Symbols)

To Do

1. DESIGN FURNITURE: Design furniture layout. Place the furniture in key locations around the space orientated to take advantage of site elements, such as a desk with a view of the site.

2. LINE WEIGHT: Draft lines in hierarchies, cuts through the wall and windows should be thickest, furniture should be lighter.

3. LAYERS: Place furniture and walls on different layers, label layers clearly

4. MAXIMUM SIZE OF COTTAGE: The main cottage space can not exceed 20' wide by 20' long, spaces should be efficient.

5. DESIGN SPACE: Design your own floor plan do not copy the floor plan below. You will loose points if you copy this one.

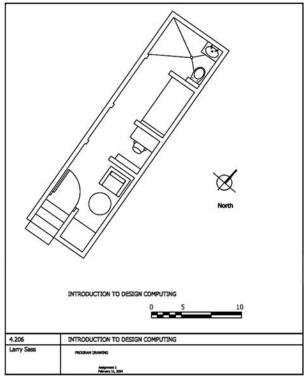6. SYMBOLS: Your plan must include all of the elements of this floor plan: North arrow, toilets, scale, etc.

Figure 4 two floor plan examples the box and the bar floor plan

TURNIN

Turn in your work as a report in two separate submissions:

1. The three pages printed on paper to be turned at lecture – *"Please staple the pages together"*

2. MS Word doc as a pdf and two AutoCAD drawings to be turned in online (3 files uploaded to Stellar)

Labeling of files for Stellar: User_Name_Assignment#_Page#.XXX

Examples
lsass_01_01.pdf
lsass_01_02.dwg
lsass_01_03.dwg