

COLUMBIA UNIVERSITY HISTORIC PRESERVATION FALL 2014

Digital Visualization for Historic Preservation

Instructor: Brigitte Cook

SYLLABUS

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Meetings: 2 sessions /week, 2 hours/ session, for 4 weeks

Course Objective

Digital Visualization for Historic Preservation is an intensive introduction to architectural drawing techniques to complement the Historic Preservation Studio I. It introduces a variety of visual tools for Historic Preservation professionals to choose from to document a building. This workshop is about developing dexterity in architectural representation in order to conceptualize and communicate the spatial, contextual and social aspects of an individual piece of architecture. We will work in freehand and take advantage of technology to build a computer drawing, which can be effectively manipulated and reproduced.

Method of Instruction

This workshop meets Monday and Thursday evenings from 7-9pm in 202 Fayerweather. The class does not meet after Monday, September 22nd. Sessions will commence with a group discussion of the prior assignment, followed by a tutorial demonstration. The class will conduct tutorials together with the instructor in real time at the computers. Each tutorial will introduce a new assignment, which will utilize the buildings under investigation in HP Studio. The tools will be introduced within the context of the field of Preservation. We will hold one additional optional working session, where the tutorial assignments will be reviewed and the instructor will address individualized questions. Please see the detailed Class Schedule for more information.

Assignments

In the course of the term we will perform six exercises and one final assignment. A set of graphic images will be produced to address a series of questions with shifting scales and topics, designed to prepare you for your studio problems. These images will be examined critically for their ability to foster an understanding of the meaning of the particular building. Each assignment is due as noted on the Class Schedule. Submitted images will be reviewed by the start of next class and feedback will be provided when necessary. Each assignment will be introduced in class through live demonstrations. Studio I projects #2 and #3 buildings will be utilized for these exercises. Information learned from drawings will be directly applied to the building analysis in the HP Studio.

Grading

Grading is based on your participation, quality of work and on individual improvements made in the course.

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CLASS SCHEDULE

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Session 1. Thursday, 9/4/2014

Topic: Orthographic Drawing Conventions; Image Manipulation

We will begin with an overview of orthographic drawing conventions and hand sketching techniques. Next, we will use Photoshop as a tool to manipulate hand drawings.

1. orthographic drawing conventions
2. translating information to drawings
3. freehand drawing tricks
4. Photoshop interface
5. adjusting an image to improve clarity (rotation, contrast, distortion and crop tools)

Assignment 1: Sketch the plan, section & elevation of an object with pencil & paper. Scan the drawings and submit to the instructor.

Session 2. Monday, 9/8/2014

Topic: Site Modeling

We will use estimated dimensions from photographs and maps to create a quick study model of the building and neighboring buildings.

1. using map data and photographs to approximate footprint & height of a building
2. scaling the site plan in Photoshop
3. SketchUp tool interface
4. creating 3d model of building and surrounding buildings
5. stitching photographs together to create a panoramic site view

Assignment 2, Part 1: Model your problem 1 building and at least 4 nearby buildings.

Part 2- Make a panoramic view of your site showing the 4 nearby buildings.

Due Monday, 9/15/2014

Session 3. Thursday, 9/11/2014

Topic: Creating Scaled Plans

The tutorial will cover an introduction to make a scaled drawing in CAD using field data.

1. steps to measure and draw a building in the field
2. transferring field data to draw a plan
3. reading and establishing drawing scales
4. establishing X, Y, Z coordinates in computer
5. set up an AutoCAD document, with layers and save
6. types of tools: pull down, buttons, and command lines
7. using move, copy, mirror, rotate, and offset commands

Assignment 3: Draw a plan of your Mausoleum. Due Monday, 9/22/2014.

Session 4. Monday, 9/15/2014

Topic: Creating Accurate Sections with Field Data

The tutorial will cover the translation of field data to produce an accurate section in AutoCAD using your plan as a base.

1. line types and line weights
2. hatch elements in poché
3. creating blocks for repeatable units
4. setting up AutoCAD output/ printing
5. sheet layout
6. drawing annotation

Assignment 4: Draw a section of your Mausoleum. Due Thursday, 9/25/2014.

Session 5. Thursday, 9/18/2014

Topic: Drawing an elevation

The tutorial will cover means and methods for creating a clear and meaningful elevation drawing created by CAD or with overlays of photography with linework produced by hand or in AutoCAD.

1. underlaying a photograph in CAD and tracing over it
2. overlaying a photograph with hand sketches or CAD lines in Photoshop
3. adding finishing information such as indications of materials, texture and ornamentation
4. isolating an image from its background in Photoshop

Exercise 5: Part 1: Draw an elevation of your Mausoleum using the method of your choice. Due Thursday, 9/22/2014

Session 6. Monday, 9/22/2014

Topic: Drawing a Detail and Drawing Composition

The tutorial will cover the steps of creating a detail drawing and composing a layout in InDesign.

1. using a section or plan to draw a detail
2. indicating materials using texture hatches
3. becoming familiar with InDesign Interface
4. layout

Exercise 6: Draw a detail of your Mausoleum by zooming in on an important part of your plan or section. Due Monday, 9/29/2014.

Optional Working Session, Thursday, 9/25/2014

Exercise 7, Final Assignment: Edit previous drawings as necessary incorporating comments from your final mausoleum drawing review in studio to compose the salient images that make the argument for significance on a sheet. Due Monday, 10/20/2014.

Individualized assistance is available by appointment.