



FALL 2014

ARCH 1210 Design Foundations II

COURSE COORDINATOR Prof. Esteban Beita, Ph.D.

6 lab/studio hours, 3 credits

COURSE DESCRIPTION Design Foundations II is the second course in the one year foundation sequence which increases the student's ability to perceive visual cues, create visual design, formulate concepts, and render ideas in two or three dimensions. Students will use a combination of hand and digital skills to aid in the creation and interpretation of three dimensional objects and space, and the delineation of the same using standard projection systems

COURSE CONTEXT This is a required course in the design sequence

PREREQUISITES ARCH 1110 Architectural Design I: Foundations and ARCH 1191 Visual Studies I both with grades of C or higher

REQUIRED READINGS Ching, Francis D. K, and Steven P. Juroszek. *Design Drawing*. New York: Van Nostrand Reinhold, 1998.

Dunn, Nick. *Architectural Modelmaking*. London: Laurence King Pub, 2010.

Hannah, Gail G. *Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships*. New York: Princeton Architectural Press, 2002.

Janson, Alban and Florian Tigges. *Fundamental Concepts of Architecture: The Vocabulary of Spatial Situations*. Birkhauser, 2014.

Mills, Criss. *Designing with Models: A Studio Guide to Making and Using Architectural Design Models*. Hoboken, N.J.: John Wiley & Sons, 2005.

Rasmussen, Steen E. *Experiencing Architecture*. Cambridge [Mass.: M.I.T. Press, 1964.

ATTENDANCE POLICY No more than **10% absences are permitted during the semester**. For the purposes of record, **two latenesses are considered as one absence**. Exceeding this limit will expose the student to failing at the discretion of the instructor.

COURSE STRUCTURE This course is a design studio which will include lectures, student presentations, guest critics, in-class workshops, and charrettes. The students will be given sequential weeks. Each problem will involve a cyclical iteration of the design process in which new skills in a variety of media will be acquired. Students will give verbal and graphic presentations of their designs which will demonstrate agility with vocabulary, concepts, and result in a critical class discussion to assess quality of the work. Work will be completed both in and outside of class. Written evaluation for each week will be provided by the professor and fellow classmates. Students should keep record of their own progress in a spreadsheet.

A review of students' Process Portfolio of work will occur at the middle and end of the semester.

GRADING

Project 01: Bridging Surfaces	20%
Project 02: The Vertical Bridge	25%
Project 03: Water Taxi	30%
Class Participation / Attendance	10%
Portfolio	10%
Sketching	5%

FILE NAMING

Course number_Professor initials_semester/year_Project Name_Student Name(image number)
For example: 1210_KS_SP15_Project Name_Student Name(01)

ACADEMIC INTEGRITY

Students and all others who work with information, ideas, texts, images, music, inventions and other intellectual property owe their audience and sources accuracy and honesty in using, crediting and citation of sources. As a community of intellectual and professional workers, the college recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension and expulsion.

LEARNING OBJECTIVES

Upon successful completion of this course, the student will:

1. **Implement** an iterative design process from problem identification, information gathering, solution generation and evaluation, implementation, presentation, and overall project evaluation. (Knowledge)
2. **Incorporate** design concepts and vocabulary into design process and presentations. (Knowledge)
3. **Distinguish** between media and **determine** the appropriate method and media required to complete a drawing or model. (Gen Ed)
4. **Communicate** ideas and information both verbally and through writing. (Gen Ed)
5. **Develop** and **apply** professional vocabulary. (Gen Ed)
6. **Produce** orthographic, axonometric, perspective, and architectural vignette drawings. (Skill)
7. **Utilize** analogue and digital media to create drawings and models. (Skill)
8. **Incorporate** color and materials into designs and presentations. (Skill)
9. **Represent** human scale and proportion in design drawings. (Skill)

ASSESSMENT

To evaluate the students' achievement of the learning objectives, the professor will do the following:

1. **Review** students' creative process (initial sketches through to the final project) by means of frequent pin-ups.
2. **Assess** the students' use of professional vocabulary during oral presentations.
3. **Review** students' written descriptions of design work and feedback.

ARCHITECTURE TECHNOLOGY RESEARCH

<http://library.citytech.cuny.edu/services/faculty/scholarship/pdf/QuickTipsArchTechF10.pdf>

Each professor will also arrange a visit to the library where students will learn how to perform research, as well as learning of the architecture books available at the library.

WEEKLY SKETCHES

Throughout the semester students will complete multiple sketches relating to each design project. The sketches will document site conditions, materials, ideas and diagrams.

PROJECT OUTLINE

01 – BRIDGING SURFACES	9 sessions
02 – THE VERTICAL BRIDGE	9 sessions
03 – WATER TAXI	9 sessions

DESIGN FOUNDATION II - COURSE OUTLINE

WEEK 01 – 04

PROJECT 01 – BRIDGING SURFACES

OBJECTIVE

To develop a design for a bridge between two structures, taking into account the nature of connecting or spanning between two surfaces, material properties and structural strength, the relation between the buildings being connected and the surrounding urban fabric, and the experience of the body moving between the spaces.



Bridge connecting former Jehovah Witness buildings

DESCRIPTION

Formerly owned by the Watchtower, the buildings linked by the current bridge create a gateway into DUMBO, offering great exposure for the area. In the following months the Brooklyn Tech Triangle will be taking control of the buildings and open them to local artist and their studios, as well as their offices. Your task is to design a new bridge that will highlight the changes that are occurring in the area.

CONSIDERATION

How does your design transition between the vertical surfaces of the existing facades into a horizontal construction?

- How are fundamental languages of lines, planes and volumes integrated and expressed?
- How do the sequences of varying spatial conditions enhance the experience of “path”?
- What is the relationship between interior and exterior? Is the exterior accessible? To what degree is the structure enclosed?
- What is the relationship between structure and skin?
- How is this experience of passage and transition a function of time?
- How does the architecture allow for vertical as well as horizontal displacement?
- How are views from within the bridge shaped or framed within the passage and to the exterior?
- How does the orientation of the building impact the design?

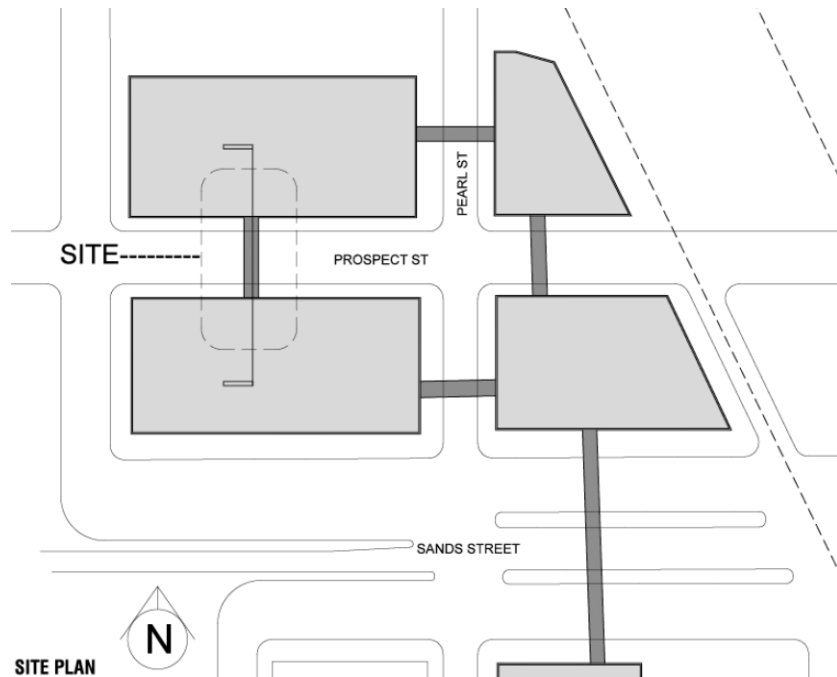
- How is rhythm of the architectural vocabulary emphasized through repetition and variation?
- What are the differences between the two ends of the link?
- How do shade and shadow contribute to the reading of the design and to the way the bridge is experienced and perceived?
- How do the experiences and readings of the bridge vary from night to day?
- How do the experiences vary in different seasons?
- Is there a difference in directionality moving from one building to the other?

DESIGN PARAMETERS

1. The new link will replace the existing two-story walkway at the designated site.
2. The overall dimension of the new bridge design may not exceed:
20' width x 20' height x 55' length
3. The floors at the existing 5th and 6th floors of the buildings adjacent to the bridge will be combined to be double-height, public spaces.
4. The degree of enclosure and operability of envelope will be determined by each student.
5. Additional program may be proposed by each student.

SITE

The site for this project at Prospect Street, between Pearl Street and Cadman Plaza, Brooklyn. Reflecting the dramatic changes in the DUMBO neighborhood, the existing buildings in this area have changed owners and are presently being redesigned to accommodate DUMBO Tech Triangle offices. Formerly owned by the Watchtower society, the buildings are linked by several existing walkways. In the near future, the Brooklyn Tech Triangle will take ownership of the buildings and open them to local artists and their studios as well as their offices. Your task is to design a new link to replace the existing two-level connection, enhancing the vibrant connectivity among the new and diverse tenants and programs, between the buildings and this unique urban context, creating a gateway into DUMBO.



PROCESS

Part 1: Site Documentation + Site Creation

Visit the site and through photography and sketching, document, materials, site conditions and general scale of the area. Each student should construct a façade model incorporating the two facades being bridged, along with the ground plane.

Part 2: Design Concepting + Model Making

Students should consider a use for their bridge. For example, if the bridge is connecting office space, is this a location for a public reading lounge? What other amenities could happen in this bridge space? Be exact: if the bridge is connecting a technology company and a artist, what might result? Explore your concepts through writing and gestural models. During this stage each student will create multiple physical models exploring different design solutions. These designs should be generated by the function you are exploring and influence the volume, structure and skin of the bridge.

Part 3: Drawings + Diagrams

Exploration of drawings and creation of diagrams to explain the design intentions of each project. Students should document their design through the use of diagrams. Students should also begin to understand their designs in terms of section and plan drawings. Drawings are critical to understanding the design solution.

Part 4: Final Materials + Presentation

During this stage students will prepare their final drawings, diagrams and model for the final presentation.

SCHEDULE

CLASS 01

In Class: Studio Introduction + introduction to project. Site visit + documentation. Bridge precedents. Visit the project site to document the building site and surrounding area through photographs and sketches. Reference the suggested list of prepositions to identify and construct your views that reveal spatial relationships among the elements in the environment. Consider the following prepositions as relational ideas which one can experience:

above, across, against, around, atop, behind, below, beneath, beside, between, beyond, inside, near, off, on, opposite, outside, over, past, through, toward, under, upon, within

Homework: Site documentations + Select one of the three collages that conveys the strongest composition and spatial potential. Using one selected collage as a base drawing, overlay trace, vellum or mylar and create a line drawing (pencil, b/w) of selected elements from your collage underlay. (You do not need to copy every line in your photo collage). Look for lines as abstractions rather than copying "objects."

Keep in mind that you are not literally "designing" your bridge through these collages but that the process will reveal vocabulary spatial conditions that are to be interpreted and developed into your final design.



M.
Tomkiewicz

CLASS 02

DUE: (3) sets of photo collages and corresponding prepositions for each image
Overlay line drawing
(Bring your digital files to class)

In Class: Discuss language of lines, planes and volumes

Homework: Create a separate figure-ground drawing from your overlay drawing, establishing thickness of lines and solid/void relationships.

Using your drawings, generate three distinct physical model studies which translate the two-dimensional images into a three-dimensional construct:

Model 1: linear vocabulary

Model 2: planar vocabulary

Model 3: volumetric vocabulary

CLASS 03

DUE: original overlay drawing (revised as required)
Figure-ground drawing
Three study models (lines, planes, volumes)

In Class: Review homework, discuss site model
Representation of lines, planes and volumes in drawings

Homework: Developed models (lines, planes, volumes)
Drawing assignment (lines, planes, volumes)

Photograph your revised models studying light and shadow.
All photographs to be consistent in size and in b/w.

CLASS 04

DUE: Revised models
Drawing assignment

In Class: Working session

Homework: Combining the vocabulary studied in the previous exercise, combine the three languages into one developed model which integrates linear, planar and volumetric language to create the spatial conditions in the sequence generated in your collage. Photograph your model studying light and shadow. All photographs to be consistent in size and in b/w.



M. Tomkiewicz

CLASS 05

DUE: Revised model (1/4"=1'-0"), clarify circulation
Site model
Photographs of model

In Class: Review drawing concepts and techniques (plans, sections, elevations)
In-class drawing exercise

Homework: Revised model
Plan and section drawings (incorporate human scale)
One-paragraph project description (typed and printed for submission)

CLASS 06

DUE: One-paragraph project description (typed and printed for submission)
Plan and section drawings

Homework: Revised plan and sections, elevations

CLASS 07

DUE: Revised plan, sections and elevations

Homework: Revised drawings
Develop final presentation

CLASS 08

In Class: mock pin-up: Review model and all drawings for graphic clarity

Homework: Develop final presentation
Final model, photographs of final model

CLASS 09

In Class: **FINAL REVIEW**
Homework: Process book (due Tuesday 3/3)

FINAL REQUIREMENTS

selected images studying site conditions, labeled
Two-dimensional sequence collages (three)
Three-dimensional process models (linear, planar, volumetric)
Integrated model combining linear, planar and volumetric languages (1/4" = 1'-0")
Sequence drawings
Floor Plan (1 at 1/4" = 1'-0")
Longitudinal section (1 at 1/4" = 1'-0")
Elevation (2 at 1/4" = 1'-0")
Final model (1/4" = 1'-0") and photographs
Process models