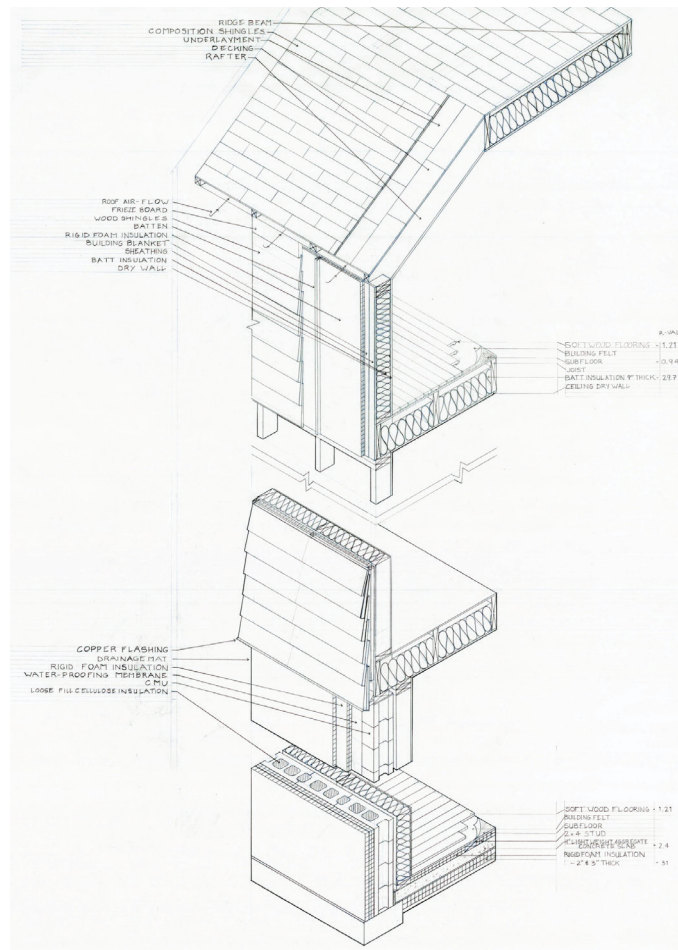


FALL 2015



ARCH 1130 BUILDING TECHNOLOGY I
REVISED COURSE OUTLINE

DRAFT

2015 05 28

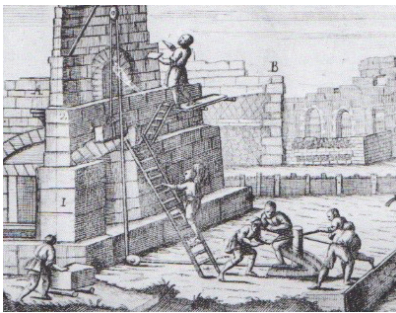
DEPARTMENT OF ARCHITECTURAL TECHNOLOGY

ARCH 1130

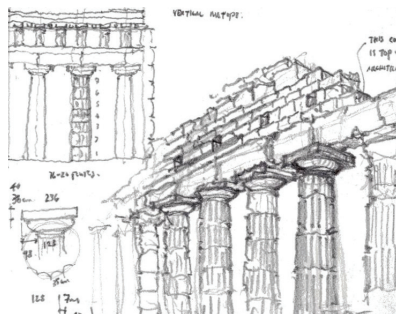
BUILDING TECHNOLOGY I

1 classroom hour, 4 lab/studio hours, 3 credits

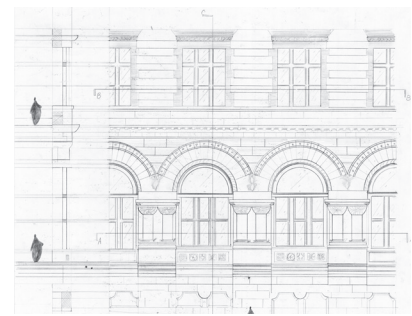
Course Description: An introduction to basic materials of construction and the fundamental principles of architectural hand drafting and system analysis. The coursework includes surveying existing conditions, development of drawings of plans, elevations, sections, and basic details from foundation to roof as well as the study of material properties and applications with an emphasis on wood and masonry and shallow foundation systems.



READING + DISCUSSION



SKETCHBOOK ANALYSIS



TECHNICAL DRAWING

Course Context: This is the first course in the Building Technology sequence required for both the AAS and the B'Tech degrees offered by the Department of Architectural Technology. Each course in this sequence is a prerequisite for the following course. There are four Building Technology courses.

Prerequisites: CUNY Proficiency in Reading
CUNY Proficiency in Mathematics

Required Texts:

Ching, Francis. *Building Construction Illustrated*. John Wiley and Sons, 2008.

Roth, Leland M. *Understanding Architecture: Its Elements, History, and Meaning*. New York, NY: Icon Editions, 1993. Print.

Recommended Texts:

Allen, Edward. *Fundamentals of Building Construction: Materials and Methods*, 5th Edition. John Wiley and Sons, 2008.

Mark, Robert, ed. *Architectural Technology up to the Scientific Revolution*. MIT Press, 1993.

Ramsey, Charles George, Harold Reeve Sleeper, and Bruce Bassler. *Architectural Graphic Standards: Student Edi-*

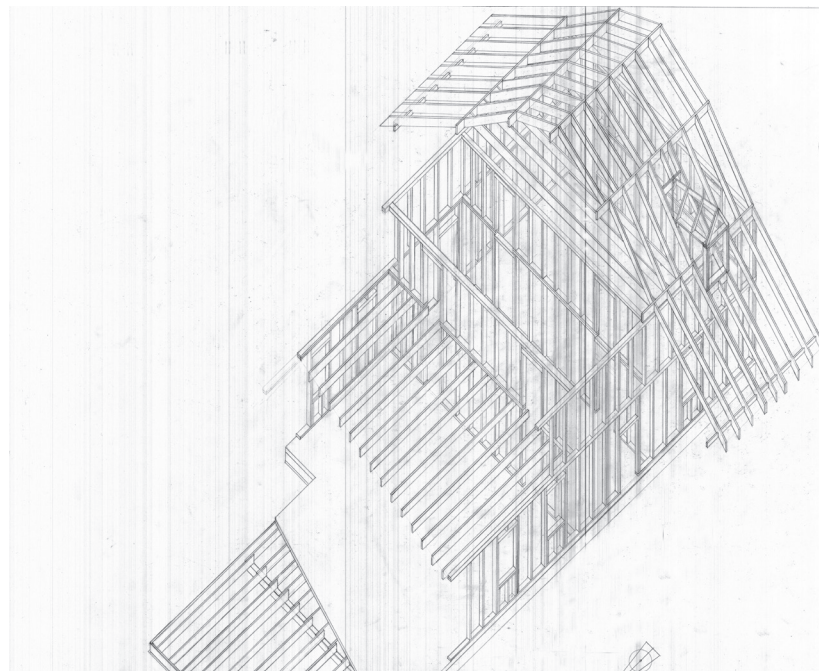
Attendance Policy: No more than 10% absences are permitted during the semester. For the purposes of record, two lateness are considered as one absence. Exceeding this limit will expose the student to failing at the discretion of the instructor.

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.

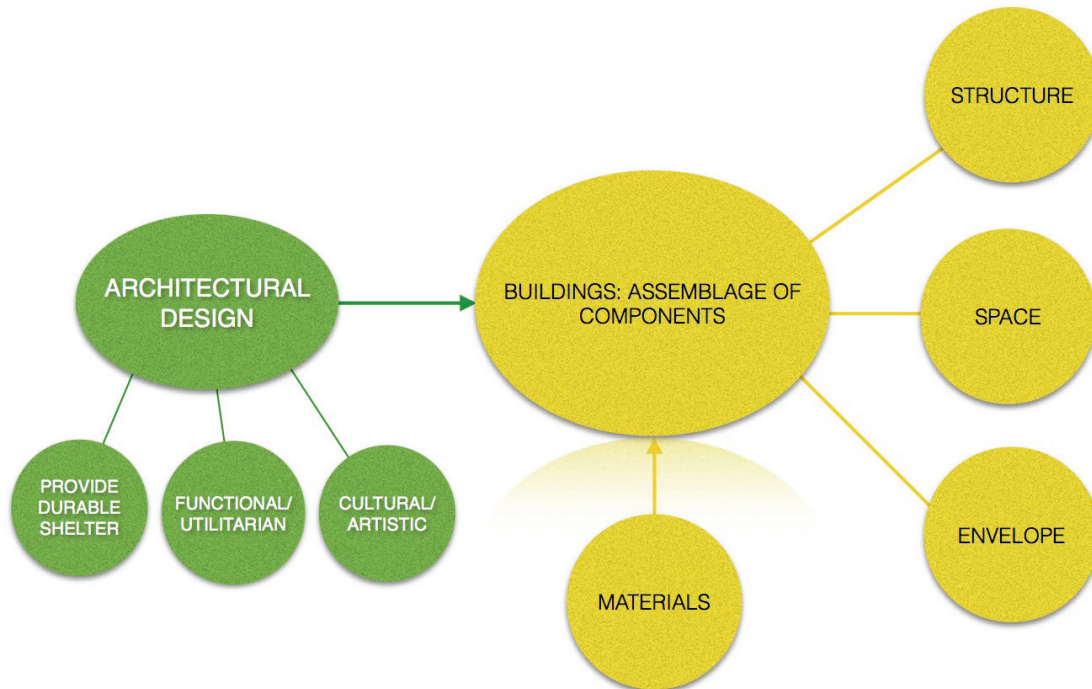
Course Structure: This course will combine a discussion series delving into fundamentals of architectural technology and studio lab time to develop a series of technical drawings. A portfolio will be developed to document the studio lab work as the semester progresses. Field trips will offer first hand on-site investigation of the core issues of architectural technology.

GRADE WEIGHTING

- 60% Studio Lab Assignments
- 25% Sketch Book Assignments
- 10% Text Book/Reading Notes
- 5% Text Book/Reading Presentations + Discussions



KNOWLEDGE ORGANIZATION FOR COURSE CONTENT



LEARNING OBJECTIVES

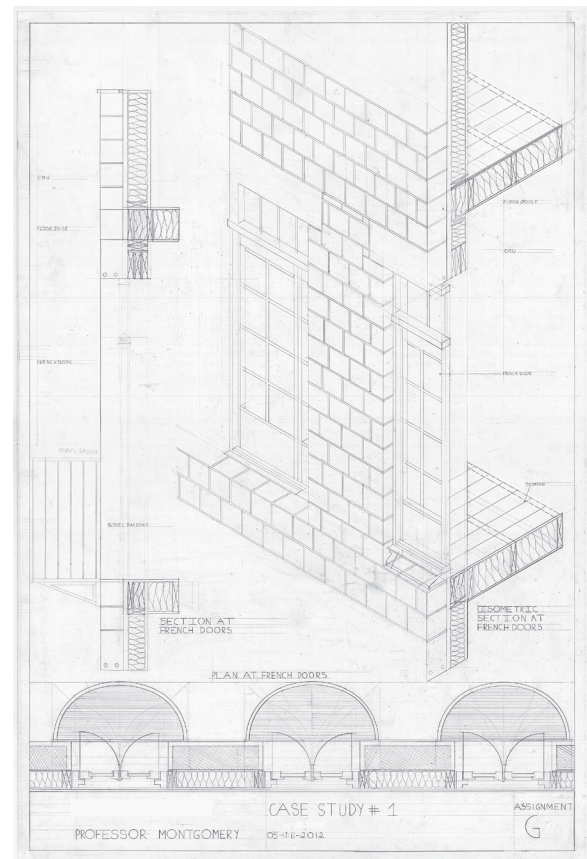
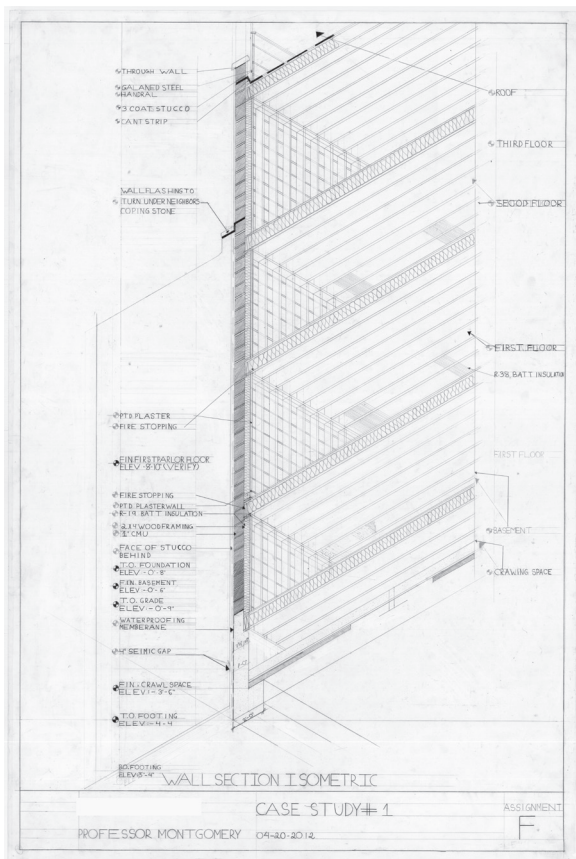
Upon successful completion of this course, the student will:

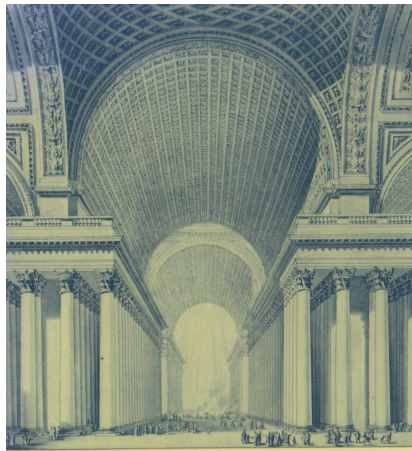
1. **Acquire tools for lifelong learning** - how to learn, how they learn, knowledge of resources. (Gen Ed)
2. **Manipulate and apply** geometric, proportional and scale systems. (Gen Ed)
3. **Develop and apply** a professional vocabulary of architectural terminology. (Gen Ed)
4. **Understand and apply** professional etiquette to classroom situations. (Gen Ed)
5. **Analyze** assemblies and details through research and visual observation. (Skill)
6. **Sketch and draft** orthographic and 3 dimensional views of buildings and details in analogue and digital media. (Skill)
7. **Recall and recite** key terms, material properties, structural typologies, and envelope system reviewed in the discussions and readings. (Gen Ed)
8. **Carfully Observe, Survey, and Document** Existing Conditions (Skill)

ASSESSMENT

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

1. Assess student engagement with the course material through the sketchbook assignments, textbook notes and presentations, and technical drawing assignments using rubrics. (Los: 1)
2. Assess the students' ability to recall and recite the key terms and concepts during text book presentations and through review of textbook notes, and sketchbook and technical drawing annotations. (Los: 3,7)
3. Review students' technical drawing assignments where students must exhibit their understanding through accuracy, correct use of lineweight and scale, and annotations. (Los: 2,5,6,7,8)
4. Assess the students' use of professional vocabulary and etiquette during discussions and oral presentations. (Lo: 3,4)
5. Review students' field notes and final drawings for careful observation and accuracy in documenting existing conditions. (Los: 2,6,8)





UNDERSTANDING ARCHITECTURE

WEEK 1

Learning Objectives:

Develop and apply a professional vocabulary of architectural terminology.

Manipulate and apply geometric, proportional, and scale systems.

Course Introduction:

Knowledge Organization: Architectural Design, Buildings, Structure and Envelop

Lab Assignment:

Plan Drawing

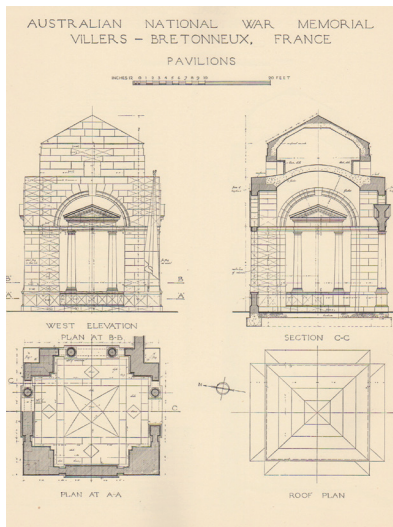
Homework:

Set Up ePortfolio

Sketch Book Diagrams for a Shelter

Text Book/Reading and Notes:

Selection of readings from *Understanding Architecture*



WEEK 2

Learning Objectives:

Develop and apply a professional vocabulary of architectural terminology.

Manipulate and apply geometric, proportional, and scale systems.

Text Book/Reading Presentation + Discussion:

ARCHITECTURAL DESIGN

Lab Assignment:

Plan, Axon, and Section

Homework:

Sketch Book Studies of Architectural Plans

Text Book/Reading and Notes:

tbd



WEEK 3

Learning Objectives:

Carfeully Observe, Survey, and Document Existing Conditions

Sketch and draft orthographic and 3 dimensional views of buildings and details in analogue and digital media.

Lab Assignment:

Park Pavilion Plan and Axon

Homework:

Sketch Book Annotation of Pavilion Details and Parts

Text Book/Reading and Notes:

Ching, Building Construction Illustrated,

Materials pp. 12.02-12.03, Wood pp. 12.11-12.13



WEEK 4

Learning Objectives:

Analyze Assemblies and details through research and visual observation.

Sketch and draft orthographic and 3 dimensional views of buildings and details in analogue and digital media.

Lab Assignment:

Park Pavilion Section

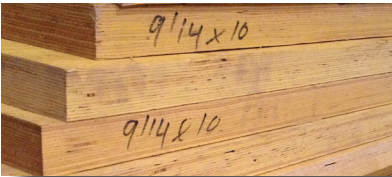
Homework:

Reflection on Park Pavilion Drawings

Sketch Book Annotation of Pavilion Details and Parts

Text Book/Reading and Notes:

Ching, Building Construction Illustrated, Masonry pp. 12.06-12.07, Stone p. 12.10



WEEK 5

Learning Objectives:

Recall and recite key terms, material properties, structural typologies, and envelope system reviewed in the discussions and readings.

Material Lab

Masonry and Stone

Woodshop Lab:

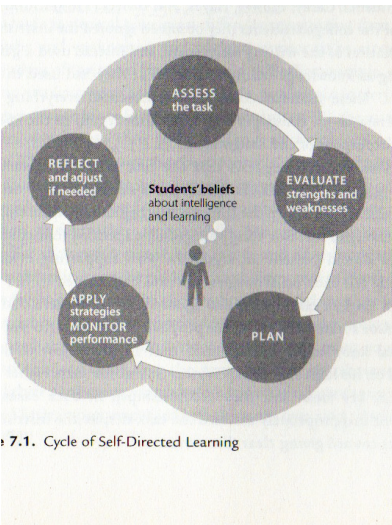
Wood

Homework:

Sketch Book Annotation of Wood + Masonry Const.

Text Book/Reading and Notes:

tbd



WEEK 6

Learning Objectives:

Acquire tools for lifelong learning - how to learn, how they learn, knowledge of resources.

Recall and recite key terms, material properties, structural typologies, and envelope system reviewed in the discussions and readings.

Text Book/Reading Presentation + Discussion:

MATERIAL PROPERTIES, WOOD, MASONRY, AND STONE

Assessment/Review:

COURSE PROGRESS + CYCLE OF SELF-DIRECTED LEARNING

Homework:

Reflection on Self-Directed Learning

Sketch Book Annotation of Wood + Masonry Const.



WEEK 7

Learning Objectives:

Survey Existing Conditions

Sketch and draft orthographic and 3 dimensional views of buildings and details in analogue and digital media.

Lab Assignment:

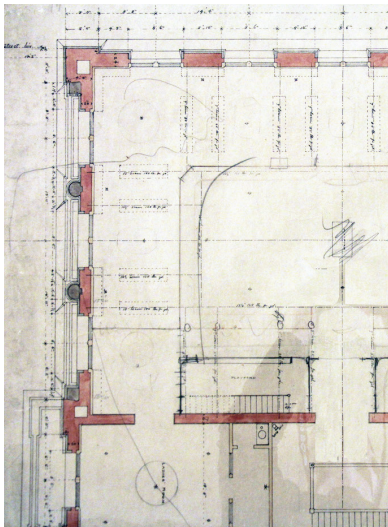
Case Study Plan

Homework:

Sketch Book Field Notes and Diagrams

Text Book/Reading and Notes:

Ching, Building Construction Illustrated, Buildings pp. 2.02-2.23



WEEK 8

Learning Objectives:

Sketch and draft orthographic and 3 dimensional views of buildings and details in analogue and digital media.

Assignment:

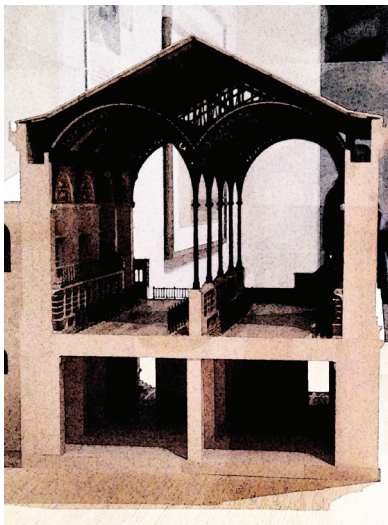
Case Study: Plan

Homework:

Sketch Book Annotation of Structural Systems

Text Book/Reading and Notes:

tbd



WEEK 9

Learning Objectives:

Analyze Assemblies and details through research and visual observation

Recall and recite the key terms, properties, and fabrication techniques of the materials reviewed in the lectures and readings.

Text Book/Reading Presentation + Discussion:

STRUCTURAL SYSTEMS

Assignment:

Case Study: Section Analysis of Structure

Homework:

Sketch Book Annotation of Structural System

Text Book/Reading and Notes:

Ching, Building Construction Illustrated, Wall Systems pp. 5.02-5.03, 5.14-5.27



WEEK 10

Learning Objectives:

Sketch and draft in orthographic and 3 dimensional views in analogue and digital media.

Assignment:

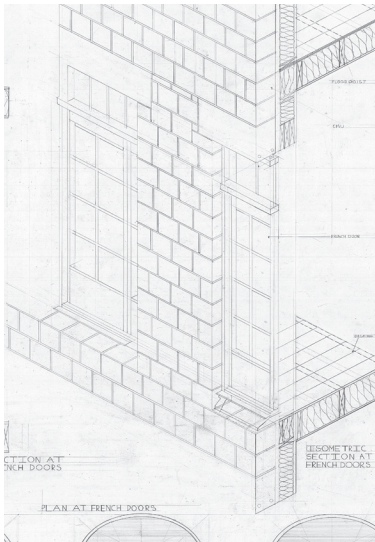
Case Study: Sections

Homework:

Sketch Book Annotation of Structural System

Text Book/Reading and Notes:

Ching, Building Construction Illustrated, Moisture & Thermal Protection pp. 7.02, 7.39-7.47



WEEK 11

Learning Objectives:

Develop analog and digital models of construction assemblies.

Text Book/Reading Presentation + Discussion:

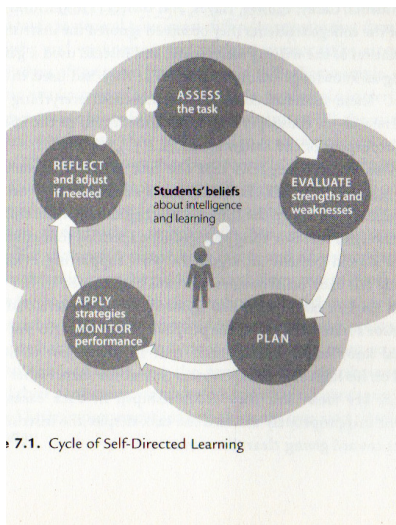
EXTERIOR ENVELOPE

Assignment:

Case Study: Sections

Text Book/Reading and Notes:

Sketch Book Annotation of Exterior Wall Systems



WEEK 12

Learning Objectives:

Acquire tools for lifelong learning - how to learn, how they learn, knowledge of resources.

Assessment/Review:

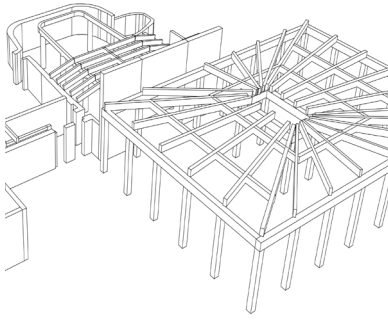
COURSE PROGRESS + CYCLE OF SELF-DIRECTED LEARNING

Assignment:

Case Study: Sections

Text Book/Reading and Notes:

Sketch Book Annotation of Exterior Wall Systems



WEEK 13

Learning Objectives:

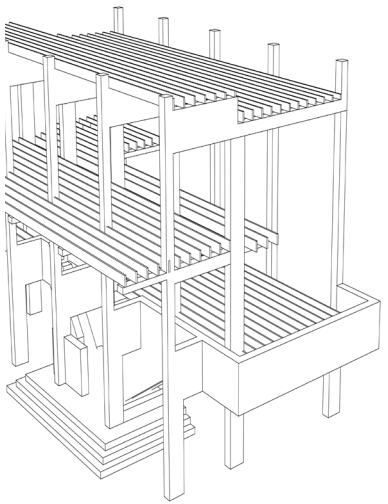
Sketch and draft in orthographic and 3 dimensional views in analogue and digital media.

Assignment:

Case Study: Space/Structure/Envelope

Text Book/Reading and Notes:

Sketch Book Annotation of Exterior Wall Systems



WEEK 14

Learning Objectives:

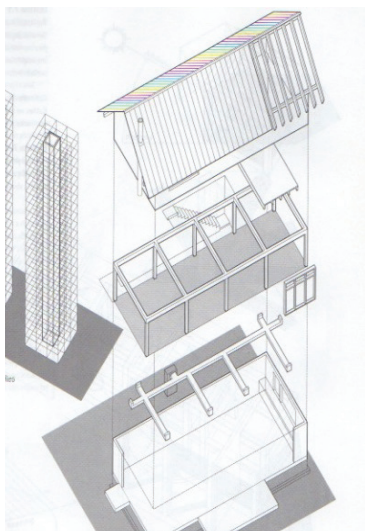
Sketch and draft orthographic and 3 dimensional views of buildings and details in analogue and digital media.

Assignment:

Case Study: Space/Structure/Envelope

Homework:

Sketch Book Portfolio Compilation



WEEK 15

Learning Objectives:

Develop and apply a professional vocabulary of architectural terminology.

Assignment:

Drawing Set Compilation and Coordination

Oral Presentation of Drawing Set and Course Reflection