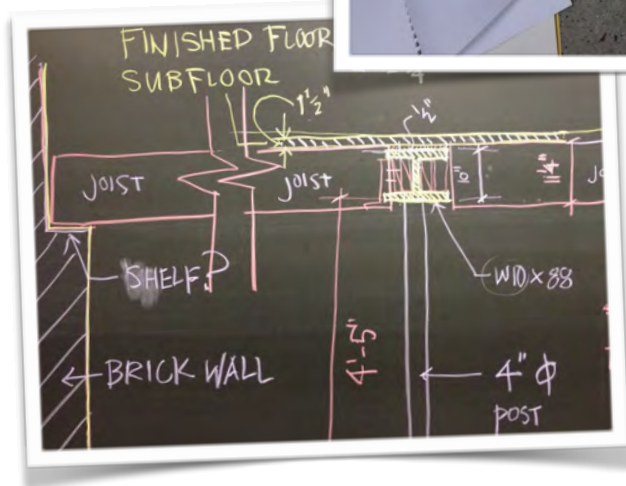


BTech I and II

review report



Professor Montgomery
Department of Architectural Technology
May 8, 2012

summary



THIS FIRST SEMESTER OF THE NEW COURSES WAS FULL OF CHALLENGES, BUT SOME CORE VALUES AND CONCEPTS WERE IMPLEMENTED WITH POSITIVE FEEDBACK (INFORMAL) FROM THE STUDENTS:

1. DRAWING ASSIGNMENTS AND LECTURES CONNECTED
2. THREE DIMENSIONAL EMPHASIS ENHANCES LEARNING
3. THE CITY AS LABORATORY ETHOS_FIRST HAND EXPERIENCE OF GREAT BUILDINGS

Department of Architectural Technology

Bachelor of Technology in Architectural Technology

Course: ARCH 1130 BUILDING TECHNOLOGY I

Review Committee:

The review Committee should have the following Materials: (should be in the P: drive)

- Course outline
- professor's syllabus
- project assignments
- Professor presentations + handouts
- rubrics or written criteria for grading
- examples of student work
- Student Evaluations of Teaching (SETs) for each professor
- course/section grade data
- student responses to surveys created by course coordinator
- Interviews with /feedback from all instructors? (or survey)
- Whatever it is should be consistent for all courses.
- Which rooms is this course being taught in

The review committee should have all the materials available before they begin the review. The committee will meet to review the materials and will work with the course coordinator throughout the process. The surveys will be developed by the course coordinator and administered by the professors. The review committee will review the results. The survey could be done digitally through survey monkey or other website.

Results:

The review committee will review all the materials and through their interviews will formulate a final report noting:

- how this course follows the course outline
- if the learning outcomes are met
- the strengths of the course
- the weaknesses of the course with recommendations
- how/if this course prepares students for the next course
- assessment of grading
- is the work appropriate for the credits/hours
- are the facilities and learning materials adequate for this course

Department of Architectural Technology

Bachelor of Technology in Architectural Technology

Course: (attach course outline)

Review Committee:

Project/Assignment Description: (or attach)

1. Which of the Learning Outcomes are met through this project/assignment?
2. What was the length of the project/assignment?
3. How could this project/assignment better meet the learning objectives?
4. Is it clear how this project/assignment is assessed? (attach rubric if used)
5. Which means of assessment are were used from those listed on the course outline?

Structure of Course

1. How is what was covered during the week to week of the course align with the course outline?
2. Are the learning objectives met through the week to week lectures and projects/ assignments?
3. What recommendations do you have for this course?
4. Is the work covered appropriate to the credits and hours?
5. Are the rooms in which this course is being taught adequate? What could be improved?
6. Are there additional learning materials that could assist in the teaching of this course?

COURSE OUTLINE:

Department of Architectural Technology

ARCH 1130 BUILDING TECHNOLOGY I

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

Course Description: This course presents 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.

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

Prerequisites: CUNY Proficiency in Reading and Writing
 CUNY Proficiency in Mathematics

Pre- or co-requisites: ENG 1101 or ENG 092W if part of a learning community

Required Texts:

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

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

Recommended Texts:

Ramsey, Charles George, Harold Reeve Sleeper, and Bruce Bassler. *Architectural Graphic Standards: Student Edition (Ramsey/Sleeper Architectural Graphic Standards Series)*. John Wiley and Sons, 2008.

Ching, Francis. *Architectural Graphics, 5th Edition*. John Wiley and Sons, 2009.

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.

Course Structure: This course will combine a weekly lecture focused on particular materials and methods of construction and studio lab time to develop a series of drawings, modeling investigations, and assemblies discussed in the lectures. There will be several quizzes based on key terms and concepts discussed in the class and in the assigned readings. There will be a comprehensive final exam. 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 materials and methods covered in the course.

Grading: Final grade will be determined according to the following grade weighting:

50% Studio Lab Assignments
20% Quizzes
25% Final Exam
5% Class Participation

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 should be able to:

1. **Understand** the relationship of technology to tectonics and architectural character. (Knowledge)
2. **Recall and recite** the key terms, properties, and fabrication techniques of the materials reviewed in the lectures and readings. (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. **Recall and recite** the environmental implications of specific materials and types of construction. (Gen Ed)
6. **Manipulate and apply** geometric, proportional and scale systems. (Gen Ed)
7. **Apply** an understanding of the relationship of physiology and anatomy to building construction. (Gen Ed)
8. **Use and apply procedural** texts to supplement instruction on the use of hardware and software. (Gen Ed)
9. **Sketch and draft** details in orthographic and 3 dimensional views in analogue and digital media. (Skill)
10. **Develop** analog and digital models of construction assemblies. (Skill)
11. **Survey** Existing Conditions (Skill)
12. **Analyze** assemblies and details through research and visual observation. (Skill)
13. **Develop** a coordinated drawing set of diagrams and details of a masonry and/or wood structure. (Skill)

Assessment:

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

1. **Review** research assignment focused on the analysis of assemblies and details and the relationship of technology to tectonics, human scale, and architectural character. (Los: 1, 7,12)
2. **Test** the students' ability to recall and recite the key terms and material of the readings and lectures through weekly quizzes and a final exam. (Los: 2, 5)
3. **Review** students' drawing and modeling work where students must exhibit their visual representation skills (2-D and 3-D). (Los: 8, 9, 10, 12, 13)
4. **Assess** the students' use of professional vocabulary and etiquette during discussions, studio work, and oral presentations. (Lo: 3, 4)
5. **Review** students' field notes and final drawings for accuracy in documenting existing conditions. (Los: 3, 11)
6. **Inspect** student submissions for quality of drafting including use of line weights, lettering, and proper use of scale. (Los: 6, 9,13)
7. **Confirm** the proper coordination of the students' submitted drawing sets. (Lo: 13)
8. **Review** the quality and accuracy of the students' submitted analogue and digital models of construction assemblies. (Los: 6, 8,10,13)

Course Outline:

WEEK 1:

Week 1 Lecture: Course Overview, Introduction to Professional Practice, Architectural Education, and Architectural Curriculum

Week 1 Lab: Introduction to architectural drawing: required hand-drafting equipment, explanation on how to set up a typical sheet, title block, line weights and lettering. Introduction to scanning files and formatting in jpeg or pdf formats. Review layout and requirements for Drawing Assignment A.

Week 1 Homework: Assignment A_Geometry and Proportion

Week 1 Reading: Ching, Architectural Drafting, Chapters 1-3, pp 1-42.

WEEK 2:

Week 2 Lecture: Making Buildings: Materials and Systems: Introduction to the materials to be discussed throughout the semester. Discussion on tectonics, sustainability, and economics as context for the work of the architect. Introduction to masonry and wood construction. Discussion on nature of

materials + selecting construction systems, inherent properties including fabrication, structural behavior, and building systems.

*Week 2 Lab: **Architectural Drawings, Scale and Dimension:*** review types of architectural drawings (orthogonal and three dimensional,) demonstrate how to use an architectural scale.

Week 2 Homework: Assignment B_Architectural Drawing Typologies

Week 2 Reading: Ching, Architectural Drafting, Chapters 4-5 pp 43-100.

WEEK 3:

*Week 3 Lecture: **Stone Masonry:*** types of building stone, quarrying and milling stone, selecting stone for buildings, stone masonry construction, concrete masonry units, fabrication, coursing, decorative units, masonry wall construction with concrete masonry units.

*Week 3 Lab: **On Site Documentation: Stone Building Elevation***

Week 3 Homework: Assignment C_Stone Building Elevation

Week 3 Reading: Allen, Stone Masonry, Chapter 9, pp. 337-375

WEEK 4:

*Week 4 Lecture: **Brick Masonry:*** brick fabrication, structural characteristics, mortar, coursing, and masonry wall construction.

*Week 4 Lab: **Brick Wall Construction and Documentation***

Week 4 Homework: Assignment D_Brick Wall Drawing and Model

Week 4 Reading: Allen, Brick Masonry, Chapter 8, pp. 298-335

WEEK 5:

*Week 5 Lecture: **Site Work and Shallow Foundations:*** Overview of subsoil exploration, test borings. Review type of soils, frost line, and water table. Discussion of excavation and shoring, shallow foundation systems, waterproofing and drainage.

*Week 5 Lab: **Introduction to Case Study Project***

Week 5 Homework: Complete Assignment D_Brick Wall Drawing and Model

Week 5 Reading: Allen, Foundations, Chapter 2, pp. 38-55, 71-83

*Week 6 Lecture: **Masonry Wall Construction:*** types of masonry walls, spanning systems, detailing, special problems, building code issues, uniqueness of masonry construction.

*Week 6 Lab: **Case Study Structural Analysis***

Week 6 Homework: Assignment E_Structural Analysis (three dimensional drawing)

Week 6 Reading: Allen, Masonry Wall Construction, Chapter 10, pp. 376-400

WEEK 7:

*Week 7 Lecture: **Wood:*** Characteristics, structure, classification of trees and properties, softwoods and hardwoods, limitations, manufacture of lumber, grading of lumber, plywood, glue laminated lumber, composite boards, wood joining, types of wood construction.

*Week 7 Lab: **Case Study Structural Analysis***

Week 7 Homework: Complete Assignment E_Structural Analysis (three dimensional drawing)

Week 7 Reading: Allen, Wood, Chapter 3, pp. 85-129

WEEK 8:

*Week 8 Lecture: **Heavy Timber Frame Construction:** Fire-resistance construction, lateral bracing, longer spans.*

*Week 8 Lab: **Case Study Wall Section with Floor Structure (three dimensions)***

Week 8 Homework: Assignment F_Wall Section (three dimensional drawing)

Week 8 Reading: Allen, Heavy Timber Frame Construction, Chapter 4, pp. 135-160

WEEK 9:

*Week 9 Lecture: **Wood Light Frame Construction:** history, balloon frame, platform frame, foundation connections and insulation.*

*Week 9 Lab: **Case Study Wall Section with Floor Structure (three dimensions)***

Week 9 Homework: Complete Assignment F_Wall Section (three dimensional drawing)

Week 9 Reading: Allen, Wood Light Frame Construction, Chapter 5, pp. 161-220

WEEK 10:

*Week 10 Lecture: **Insulation and Roofing.** Thermal insulation and vapor retarders, air infiltration and ventilation. Low slope roofs: vapor retarders, rigid insulation materials for low slope roofs, ballast and traffic decks, drainage, roof venting, water vapor and condensation, scuppers, parapet design.*

*Week 10 Lab: **Case Study Parapet Detail***

Week 10 Homework: Assignment G_Parapet Section (three dimensional drawing)

Week 10 Reading: Allen and Iano, Roofing Chapter 16, pp. 651-677

WEEK 11:

*Week 11 Lecture: **Windows and Doors:** types of windows, window frames, glazing, installing windows, doors types, resistance to wind and rain, thermal performance, impact resistance.*

*Week 11 Lab: **Case Study Window Details***

Week 11 Homework: Assignment H_Wall Section At Window (three dimensional drawing)

Week 11 Reading: Allen, Windows and Doors Chapter 18, pp. 747-781

WEEK 12:

*Week 12 Lecture: **Interior Systems and Finishes:** mechanical systems integration and coordination, building insulation, and interior finishes, stairs, fireplaces.*

*Week 12 Lab: **Case Study Environmental Performance Analysis***

Week 12 Homework: Complete Assignment H_Wall Section At Window w/ performance analysis diagrammed and noted (three dimensional drawing)

Week 12 Reading: Allen, Interior Finishes for Wood Light Frame Construction Chapter 7, pp.255-295

WEEK 13:

*Week 13 Lecture: **Stairs***

*Week 13 Lab: **Designing Stairs:** code compliance, terminology, and calculation techniques, drawing conventions.*

Week 13 Homework: Complete Assignment I_Interior Stair (three dimensional drawing)

Week 13 Reading: supplementary reading tbd

WEEK 14:

Week 14 Lecture: Review for Final Exam

Week 13 Lab: Drawing set coordination, editing, documenting

Week 13 Homework Assignment: Continue coordination and editing

Week 13 Reading: Final Exam Review

WEEK 15:

Week 15 Lecture: Final Exam

Week 15 Lab: Formal Presentation/Review of Drawing Assignments