CNST A261: MASONRY CONSTRUCTION II

Item	Value
Curriculum Committee Approval Date	12/02/2020
Top Code	095200 - Construction Crafts Technology
Units	5 Total Units
Hours	162 Total Hours (Lecture Hours 54; Lab Hours 108)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

An advanced course in masonry. Covers flatwork with brick, stone and pavers, masonry stairs, arches, and advanced masonry veneer projects. ADVISORY: CNST A260. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Install flatwork with proper draining and to meet industry quality standards.
2. Build masonry steps to meet California Residential Code requirements.
3. Install brick veneer with proper reinforcements.

Course Objectives

- 1. Apply the appropriate formulas for problem solving of masonry problems
- 2. Name the appropriate mortar materials used in masonry.
- 3. Recognize and properly name various positioning patterns of brick.
- 4. Apply the appropriate techniques to the installation of brick and pavers as flatwork.
- 5. Identify masonry projects that can be built with standard industry plans
- 6. Identify masonry projects that will require a building permit.
- 7. Properly install masonry reinforcement per code requirements.
- 8. Properly apply the masonry acid wash solution to finished projects.
- 9. Establish the proper drainage for masonry flatwork.

Lecture Content

A. Orientation to construction lab area. 1. Safety procedures for all work in the lab. 2. Safety Examination. B. Basic hand tools for masonry. 1. Power tools for the trade. 2. Learning to use the basic tools C. The development of mortar. 1. Types of mortar and their characteristics 2. Proper method of mixing mortar D. Laying brick to the line. 1. Laying the first course 2. Wet set compared to mortar set. 3. Line blocks for brick. 4. Setting the trig for bricks. E. Construction of semicircular and segmental arches. 1. Developing the arch. 2. Setting the form for arch F. Veneer 1. Attaching veneer with wall ties 2. Building wrap for veneer attachment 3. Brick veneer patterns G. Masonry Steps 1. Building Codes 2. Stair calculations 3. Stair layout 4. Stair construction

Lab Content

A. Orientation to construction lab area. 1. Safety procedures for all work in the lab. 2. Safety Examination. B. Basic hand tools for masonry. 1. Power tools for the trade. 2. Learning to use the basic tools C. The development of mortar. 1. Types of mortar and their characteristics 2. Proper method of mixing mortar D. Laying brick to the line. 1. Laying the first course 2. Wet set compared to mortar set. 3. Line blocks for brick. 4. Setting the trig for bricks. E. Construction of semicircular and segmental arches. 1. Developing the arch. 2. Setting the form for arch F. Veneer 1. Attaching veneer with wall ties 2. Building wrap for veneer attachment 3. Brick veneer patterns G. Masonry Steps 1. Building Codes 2. ; Stair calculations 3. Stair layout 4. Stair construction

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- Lab (04)
- DE Live Online Lab (04S)

Instructional Techniques

Instructional methodologies will include, but not necessarily be restricted to the following: 1. Detailed multimedia/ lectures of each topic covered. 2. Student feedback during each lecture. 3. Detailed illustrative discussion of lecture handout and textbook information. 4. Building plan reading

Reading Assignments

Students are assigned a weekly reading assignment - approximately 2- 3 hours per week.

Writing Assignments

Homework assignments and lab competency of trade techniques - approximately 2 hours per week.

Out-of-class Assignments

Students are assigned research papers dealing with masonry codes and procedures -approximately 2-3 hours per week.

Demonstration of Critical Thinking

A. Students will be given various types of written tests for their evaluation in this course during this semester. These will include identification, multiple choices, fill-in the blank and mathematical calculation. B.Students will be required to do lab assignments. C. Students will be required to participate in class discussions and presentations.

Required Writing, Problem Solving, Skills Demonstration

Homework assignments and lab competency of trade techniques.

Eligible Disciplines

Construction technology: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Kicklighter, Clois, E.. Modern Masonry, eight ed. Goodheart-Willcox, 2016