CNST A190: BLUEPRINT READING AND DRAFTING

Item	Value
Curriculum Committee Approval Date	12/02/2020
Top Code	095200 - Construction Crafts Technology
Units	4 Total Units
Hours	72 Total Hours (Lecture Hours 72)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Develop blueprint reading and drafting skills in all aspects of residential construction to acquire realistic understanding of prints and sketches as a means of communication in construction. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Interpret different types of construction documents and draw basic construction documents for a remodel on a residential dwelling.

Course Objectives

- 1. Explain blueprints; correctly interpret lines, symbols, figures and notations.
- 2. Use isometric drawing techniques to create dimensional effects.
- 3. Recognize and use dimensions and symbols for drawings.
- 4. Use scaling and dimensions drawings practices in interpreting plans.
- 5. Explain basic plan views, elevations views, section views, and reference lines.
- 6. Use a measuring tape and use an Architect?s Scale.
- 7. Draw a set of plans and know the procedures to have these plans approved through a municipality.
- 8. Explain the functions of footings and foundations.
- 9. Identify the basic parts in frame construction and explain the functions of the elements of the building detail.
- 10. Identify the most common types of roofs used on residential construction and explain the function of the roof members
- 11. Identify the basic parts in a staircase used on residential construction.
- 12. Examine the State Building Code in regards to residential stairs.

Lecture Content

Orientation to classroom equipment, i.e. drafting table The process of reproducing blueprints with the Diazo machine The drafting instruments needed to draw plans The different types of construction drawings The difference between Pictorial and Orthographic drawings The persons involved in the creation of construction documents The most significant developments in CADD (computer-aided drafting and design) The method of reading of measuring tape in the Imperial System The math formulas needed to convert fractions to decimals The math formulas needed to convert inches to decimals of a foot Diagram the proper method of expressing feet and inches The proper method of adding and subtracting feet and inches The mathematical formula needed to convert scales The different types of lines and what these lines may represent The triangular architect s scale The proper use of the architect s scales The use of symbols and abbreviations instead of drawing the actual item The importance of a site survey in respect to a site plan The procedures that a land surveyor does to triangulate real property The components of two types of foundations found in residential construction The application of the building code to the foundation The components of the framing plan The application of the building code to the framing plan Discuss the components of the floor plan Relate the importance of the building code to the floor plan The components of the ceiling plan The application of the building code to the ceiling plan The components of the roof plan The application of the building code to the roof plan Overview of the subcontractors that are part of the construction plan The importance of the written words known as specification sheet The symbols for the electrical plan Overview of the plumbing, heating, ventilation, and air-conditioning of a project The symbols for the heating, ventilation, and air-conditioning of a project Identifying the different types of roofs The method for calculating common rafters Identifying the different types of stairs Demonstrate the method for calculating stairs

Method(s) of Instruction

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

Instructional Techniques

Lectures, demonstrations, videos, cooperative learning groups, field trips, guest speakers.

Reading Assignments

Students have a weekly reading assignment which include studying building codes and construction procedure - approximately 3 hours per week.

Writing Assignments

Preparation of plans and documents - approximately 3 hours per week.

Out-of-class Assignments

Students are assigned a weekly drafting assignment to do out of class - approximately 3 hours per week.

Demonstration of Critical Thinking

Students will be given various types of written tests for their evaluation in this course during this semester. These will include identification, multiple choice, true and false, and mathematical calculations. Students will be required to draw a set of plans onto an existing structure and meet all municipality code requirements per SBC (State Building Code). Students will be required to participate in class discussions and presentations.

Required Writing, Problem Solving, Skills Demonstration

Preparation of plans and documents.

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 Koel, Leonard. . Construction Print Reading, 6th ed. ed. New York: Delmar Publishers, 2013 Rationale: - 2. Required California Department of Education. California Contemporary House Plans. , ed. California: -, 1975 Rationale: (no later edition).