BCI C101: RESIDENTIAL/ CONSTRUCTION BLUEPRINT READING

Item	Value
Curriculum Committee Approval Date	12/06/2024
Top Code	095720 - Construction Inspection
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
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)

Course Description

Formerly: BCT C301. An introduction to residential/commercial construction, this course is designed to provide foundational knowledge and enough practice at reading blueprints to get the student started. It is a guide to understanding the drawings used in the major construction trades, including carpentry, electrical, plumbing, heating, and air conditioning. The course includes information for styles of building from small-scale residential to large-scale commercial. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Communicate, analyze, and apply blueprints to residential building code structural requirements to ensure compliance with all current code standards and parameters.

Course Objectives

- 1. Develop an analysis of the procedures and operations involved in the preparation of construction documents and the inter-relationship of building codes and ordinances.
- 2. Demonstrate knowledge of graphic symbols and architectural methods by reviewing sets of blueprints and answering text questions.
- 3. Compare the materials of construction and their order of erection in a minimum of two construction processes.
- 4. Distinguish the mechanical system (electrical, plumbing, heating, etc.) and their particular application to multi-frame construction.

Lecture Content

Introduction Fundamentals of blueprint reading Introduce to blueprint reading as applied projects Computer generated prints Welding Print Format and types of Fabrication blueprints Requirements of a certified welding shop Certifications Shop drawings Chapter 17 Code requirements Welding symbols and Sizes Welding processes relating to code requirements Types of welds Welding requirements from structural blueprint sheets Structural shapes and symbols I beams vs. H beams Strengths and spans using tables and formulas How symbols relate to the print pages Blueprint Interpretation How Building Code allows interpretation Where they occur How to make the best decisions to obtain a code compliant structure. Introduction to Estimating How to take off material quantity and quality from plans Precise take offs and result and results Bonds and Insurance Construction bond and insurances Budgeting for costs to protect projects from non-code compliance Plans take off and quality plan review Materials Specifications Where and why plan specifications are located Importance of correct specs when using substitutions and modifications Research involved in providing the manufactures specifications Assigned projects Labor Types of labor Labor costs Federal and State requirements Hiring practices Discrimination Structural Steel systems Sectional systems Review plans for Citi Corps and World Trade Twin Towers/how it fell Demonstrate on plans where loads are calculat ed

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)

Instructional Techniques

A variety of instructional techniques will be employed to encompass different student learning styles. These may include but are not limited to, lecture, discussion, projects, and small group activities. Instruction will be supplemented, where appropriate, by digital media presentations and resources, guest speakers and field trips.

Reading Assignments

Required manuals, documents, coding agreements and industry updates.

Writing Assignments

Weekly projects, plans, revisions, discussion topic responses that will demonstrate skills application through authentic projects.

Out-of-class Assignments

Read/View the required materials, conduct the appropriate research, prepare documents/plans, complete and revise projects, and prepare for quizzes/exams.

Demonstration of Critical Thinking

Projects will be completed to demonstrate competencies in the workplace in relation to residential building code blueprints.

Required Writing, Problem Solving, Skills Demonstration

Weekly projects, plans, revisions, quizzes, exams, discussion topic responses demonstrating authentic skill application related to building code requirements.

Eligible Disciplines

Building codes and regulations (inspecting of construction, building codes,...: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Brown, Walter C. Print Reading for Construction, 8th ed. E-text 9781637769164 Print 9781649259851: Goodheart-Wilcox, 2023 Rationale: -

Other Resources

1. Coastline Library