

BI 0032 - RESIDENTIAL BUILDING CODES

Catalog Description

Formerly known as CET 32

Hours: 54 lecture

Description: Instruction in building codes for light frame one- or two-story dwellings related to local jurisdictions and the State of California. Application of codes to existing buildings with a study of regulations and abatement procedures for standard frame and Insulated Concrete Forms (ICF) green technology buildings. Includes codes related to California Green Technology and "Net Zero Energy" policies. (not transferable)

Course Student Learning Outcomes

- CSLO #1: Use the International Residential Code (IRC) and California Building Code (CBC) to remain code compliant.
- CSLO #2: Outline abatement procedures for common hazards found in residential construction.
- CSLO #3: Analyze the appropriate building materials and construction methods necessary to comply with the California Building code energy requirements for a residential dwelling.

Effective Term

Spring 2021

Course Type

Credit - Degree-applicable

Contact Hours

54

Outside of Class Hours

108

Total Student Learning Hours

162

Course Objectives

1. Produce the code adoption process utilized by the State of California and the International Code Council (ICC) for residential dwellings.
2. Analyze and provide compliance with the permit processes and inspection requirements of the various local Departments of Building Safety for a residential dwelling.
3. Identify the unique definitions required for enforcement of the International Residential Code (IRC) and California Building Code (CBC).
4. Prepare construction documents, which comply with the Fire-Life-Safety requirements of the IRC and the various local Departments of Building Safety for a residential dwelling.
5. Evaluate a construction site and design and construct a cost effective and code compliant foundation system for a residential dwelling.
6. Design and provide construction of a cost effective, energy efficient, and code compliant floor system for a residential dwelling.
7. Design and provide construction of a cost effective, energy efficient, and code compliant wall system for a residential dwelling.

8. Design and provide appropriate and cost effective exterior and interior wall finishes.
9. Design and provide a cost effective, energy efficient, and code compliant roof-ceiling construction for a residential dwelling.
10. Develop and provide a cost effective, energy efficient and code compliant roof assembly for a residential dwelling.
11. Develop and provide design for a fireplace which is energy efficient and code compliant in a residential dwelling.
12. Analyze the appropriate building materials and construction methods necessary to comply with the California Building code energy requirements for a residential dwelling.
13. Outline standards and abatement procedures for dangerous and substandard buildings.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- Not Transferable

Methods of Evaluation

- Problem Solving Examinations
 - Example: Students will be tested on reading and lecture material. Question Example: Describe the span calculations used to develop and provide a cost effective, energy efficient, and code compliant roof assembly. Points will be assigned to each question and converted to a letter grade.
- Reports
 - Example: Students will choose a specific project to develop through the course. The report will focus on identifying applicable California building codes to the project. The grading is determined by a grading rubric.

Repeatable

No

Methods of Instruction

- Lecture/Discussion
- Distance Learning

Lecture:

1. 1) Instructor will lecture on the current building codes in the State of California and their various applications and enforcement. The student will be given an opportunity to clarify any questions in an instructor-guided discussion. (Lecture Objective 2) 2) Instructor will lecture on the appropriate building materials and construction methods necessary to comply with the California Building code energy requirements. The student will be given an opportunity to clarify any questions in an instructor-guided discussion. (Lecture Objective 12)

Distance Learning

1. Students in online classes participate, individually and in groups, in discussion boards and respond to weekly assignments via the Learning Management System. The instructor will provide

documented material (including videos) explaining or exploring the course content and provide individual feedback on all assignments. The instructor will demonstrate the research process to find State and local code adoptions. Students will then go to their local government's website and submit the web-links to the adoption matrix. (Lecture Objective 1)

Typical Out of Class Assignments

Reading Assignments

1. Read chapters on code compliant floor systems and discuss with class the code requirements. 2. Research on the web the fire safety requirements for a residential dwelling and present findings to class.

Writing, Problem Solving or Performance

1. Calculate the allowable spans for wood I-joist using the appropriate span tables. 2. Create a chart showing the inspection sequence required for a residential dwelling.

Other (Term projects, research papers, portfolios, etc.)

Required Materials

- California Uniform Building Codes
 - Author: State of California
 - Publisher: State of California
 - Publication Date: 2019
 - Text Edition:
 - Classic Textbook?: No
 - OER Link:
 - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.

Supplemental materials - Local Housing Codes and Code for the Abatement of Dangerous Buildings and Uniform Housing Code.