

**COURSE INFORMATION:**

- A. Division: Applied Technology & Transportation  
Department: Inspection Technology  
Course ID: INSPEC 017C  
Course Title: California State Energy Regulations for Residential Buildings  
Units: 3  
Lecture: 3 Hours  
Laboratory: None  
Prerequisite: None  
Corequisite: None  
Dept. Advisory: None
  
- B. Catalog and Schedule Description: Basic compliance with California Title 24 Energy Efficiency Standards for residential buildings. Includes prescriptive and performance methods such as alternative packages, point systems, and computers.

**II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One**

**III. EXPECTED OUTCOMES:**

Upon successful completion of the course, the student should be able to analyze construction components of Residential Buildings for compliance with the Energy Standards by:

- A. Identifying the prescriptive and performance approach.
- B. Regulating the CEC designated climate zones requirements.
- C. Recognizing the mandatory measures.
- D. Classifying building types for the alternative packages.
- E. Enforcing construction types per the Uniform Building Code.
- F. Explaining non-complying energy features to others.
- G. Writing notices of corrections for non-complying feature.
- H. Inspecting buildings for compliance with the Energy Standards.

**IV. COURSE CONTENT:**

- A. History of the Standards
  - 1. Oil embargo of the 1970s
  - 2. Human comfort
  - 3. Economics
- B. Mandatory measures
  - 1. Fenestration
  - 2. Insulation
  - 3. Ceilings
  - 4. Walls
  - 5. Thermal mass
- C. Mechanical equipment
  - 1. Water heating
  - 2. Forced air unit
- D. Alternative packages
  - 1. Package C
  - 2. Package D
- E. Performance approach - Computer analysis
  - 1. CEC approved computer programs
  - 2. Budgets
  - 3. Compliance forms
- F. Additions and alterations
  - 1. Prescriptive packages
  - 2. Performance approach
- G. Special topics
  - 1. Subdivisions

- 2. Exotic structures
- H. Enforcement
  - 1. State inspectors
  - 2. Local inspectors

**V. METHODS OF INSTRUCTION: (Please check all that apply and add any additional not listed.)**

- Lecture
- Class and/or small group discussion
- Critical evaluation of texts, newspapers, journal articles, and other printed research
- Critical evaluation of films, videotapes, audiotapes, or other media forms
- Classroom demonstrations
- Field trips
- Guest speakers
- Other:
- Other:
- Other:

**VI. TYPICAL OUT-OF-CLASS ASSIGNMENTS:**

- A. Reading Assignment. Reading assignments are required and may include (but are not limited to) the following: Read assigned chapters and do homework  
Typical Question:  
What are the requirements for using a wood-burning stove as the only source of heat.
- B. Writing Assignment. Writing assignments are required and may include (but are not limited to) the following: Write proper installation procedures for energy features after viewing videos.
- C. Critical Thinking Assignment. Critical thinking assignments are required and may include (but are not limited to) the following: Analyze the energy features of an existing residence and define the energy features for a 100 sq. ft. room addition in Climate Zone 16.

**VII. EVALUATION:**

A student's grade will be based on multiple measures of performance and will reflect the objectives explained above. A final grade of "C" or better should indicate that the student has the ability to successfully apply the principles and techniques taught in this course. These evaluation methods may include, but are not limited to, the following (Please check all that apply, and add additional ones not listed):

- Portfolios
- Projects
- Written papers or reports
- Presentations (oral and visual)
- Work performance (internships or field work)
- Lab work
- Comprehensive examinations (cumulative finals or certifications)
- Peer evaluation
- Self evaluation
- Classroom participation
- Homework
- Other:
- Other:
- Other:

**VIII. TYPICAL TEXTS:**

- A. California Energy Efficiency Manual for Residential Buildings. California Energy Commission, Sacramento, CA, 2005.
- B. Energy Workbook for Residential Buildings. California Energy Commission, Sacramento, CA, 2005.

San Bernardino Valley College  
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- C. Energy Efficiency Standards for Residential and Nonresidential Buildings. California Energy Commission, Sacramento, CA, 2005.

**IX. OTHER SUPPLIES REQUIRED OF STUDENTS:**  
Three-ring binder