

Last updated: 12/98

San Bernardino Valley College
Course Outline

I. CATALOG DESCRIPTION:

Division: Technical Department: Welding
Course ID#: INSPEC 018A
Course Title: California State Energy Regulations for Non-residential Buildings
Hours: 3 hours/week lecture Length: 17 weeks minimum
Units: 3
Prerequisite/Corequisite: None
Course Description: Basic compliance with California Title 24 Energy Efficiency Standards for non-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 FOR STUDENTS:

Upon completion of the course, students will be able to apply analysis and problem solving skills to:

- A. Analyze construction components of nonresidential buildings for energy compliance.
- B. Define the prescriptive and performance approach to compliance.
- C. Recognize CEC mandated mandatory measures.
- D. Explain the rationale for CEC climate zones.
- E. Classify building types for energy purposes.
- F. Write correction notices of deficiencies for non-complying features.
- G. Inspect buildings for compliance with the Energy Standards.

IV. CONTENT:

- A. History of the Standards
 - 1. Oil Embargo of the 1970s
 - 2. Human comfort
 - 3. Economics
 - 4. Alquist-Warren Act
- B. Mandatory measures
 - 1. Fenestration
 - 2. Ceilings
 - 3. Walls
- C. Mechanical equipment
 - 1. Water heaters
 - 2. Economizer
 - 3. Forced air units
- D. Building occupancy types
- E. Computer analysis

V. METHODS OF INSTRUCTION:

- A. Directed discovery discussions, lectures, and video viewing.
- B. Instructor/student conferences to discuss specific construction problems.
- C. Students will view videos of active construction sites and write correction notices for code deficiencies.
- D. Students will be required to perform six hours of reading outside of class.

VI. TYPICAL ASSIGNMENTS:

- A. Read Chapter 1 of the manual. Determine if the given building examples are required to comply with the Standards.
- B. View CEC training video during class and list the inspection order for energy.
- C. Call the CEC Hot Line to determine the climate zone for a geographical area not listed in Appendix C.
- D. Visit a local supermarket and analyze the installed glazing.

VII. EVALUATION:

A. Methods of Evaluation:

1. Graded assignments - Each chapter exercise must be completed and a satisfactory grade received to advance to the next exercise.
2. Mid-term examination
3. Final examination

Typical Questions:

- a. Identify the CEC occupancy type for a 500 square foot room that houses a Van Gogh collection for public viewing.
- b. Write a correction for a 7-Eleven store with no wall insulation installed.

B. Frequency of Evaluation:

1. Exercises graded weekly
2. One mid-term examination
3. One final examination
4. Periodic feedback based on conferences with the instructor

VIII. TYPICAL TEXTS:

California Energy Efficiency Manual for Nonresidential Buildings, California Energy Commission, Sacramento, CA 1998 or current edition
Energy Workbook for Nonresidential Buildings, California Energy Commission, Sacramento, CA, 1998 or current edition
Energy Efficiency Standards for Residential and Nonresidential Buildings, California Energy Commission, Sacramento, CA 1998 or current edition

IX. OTHER SUPPLIES REQUIRED OF STUDENTS: None