

**College of San Mateo**  
**Official Course Outline**

1. **COURSE ID:** BLDG 760    **TITLE:** Energy Regulations  
**Units:** 3.0 units    **Hours/Semester:** 48.0-54.0 Lecture hours; 96.0-108.0 Homework hours; 144.0-162.0 Total Student Learning hours  
**Method of Grading:** Letter Grade Only
  
2. **COURSE DESIGNATION:**  
**Degree Credit**  
**Transfer credit:** none
  
3. **COURSE DESCRIPTIONS:**  
**Catalog Description:**  
Methods of compliance with energy regulations applicable to dwellings, apartments, condominiums, and hotels. Includes heat transfer, insulation, weather stripping, climate control systems, water heating, mandatory requirements, computer compliance, point system, component packages, appliance regulations, and solar systems.
  
4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**  
Upon successful completion of this course, a student will meet the following outcomes:
  1. Apply the state residential and non-residential energy regulations to heating and cooling construction projects.
  2. Apply the state residential and non-residential energy regulations to appliances, insulation and component packages.
  3. Match the various regulations applied to energy related construction projects in California.
  4. Recognize energy efficient design principals and a variety of passive and active e solar systems.
  5. Participate in live applications on the proper sizing of ducts, vents, combustion air, and gas piping.
  
5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**  
Upon successful completion of this course, a student will be able to:
  1. Apply the state residential and non-residential energy regulations to heating and cooling construction projects.
  2. Apply the state residential and non-residential energy regulations to appliances, insulation and component packages.
  3. Match the various regulations applied to energy related construction projects in California.
  4. Recognize energy efficient design principals and a variety of passive and active e solar systems.
  5. Participate in live applications on the proper sizing of ducts, vents, combustion air, and gas piping.
  
6. **COURSE CONTENT:**  
**Lecture Content:**
  1. Heat transfer
  2. Mandatory requirements for heating systems
  3. Low-rise residential and mandatory features
  4. Prescriptive standards in construction
  5. Solar systems and Heating designs
  6. Nonresidential, high-rise residential, hotel space conditioning
  7. Lighting and energy requirements
  8. Prescriptive standards for lighting
  9. Budgets, additions, alterations
  
7. **REPRESENTATIVE METHODS OF INSTRUCTION:**  
Typical methods of instruction may include:
  - A. Lecture
  - B. Discussion
  - C. Guest Speakers
  - D. Other (Specify): material demonstrations, reading assignments, and handouts from the California Energy Commission.

## 8. REPRESENTATIVE ASSIGNMENTS

Representative assignments in this course may include, but are not limited to the following:

### **Writing Assignments:**

- . Research code applications, exceptions and defend analysis
- . Prepare short written paper on selected topics
- . Homework assignments based on analysis of subjects within current lecture

### **Reading Assignments:**

- . Various parts of the energy applicable codes

## 9. REPRESENTATIVE METHODS OF EVALUATION

Representative methods of evaluation may include:

- A. Class Participation
- B. Exams/Tests
- C. Quizzes

## 10. REPRESENTATIVE TEXT(S):

Possible textbooks include:

- A. International Code Council. *2022 California Energy Code*, ed. Washington, DC: International Code Council, 2022

**Origination Date:** October 2023

**Curriculum Committee Approval Date:** November 2023

**Effective Term:** Fall 2024

**Course Originator:** Peter von Bleichert