

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_____ Transfer course A.A. degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: CI 90 Mechanical Codes

UNIT VALUE: 2.5

MINIMUM NUMBER OF SEMESTER HOURS: 40

BASIC SKILLS REQUIREMENTS:

Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

An in-depth study of the fundamental concepts and interpretations of current state-adopted mechanical codes. Topics covered include compliance issues, mechanical specifications, basic mechanical principles, and inspection methods and techniques. International Conference of Building Officials (ICBO) revisions every three years.

SPECIFIC COURSE OBJECTIVES:

Successful students will be able to:

1. Apply current code principles in the inspection, installation and use of fittings, materials, and equipment.
2. Describe the current, state adopted permit and inspection process.
3. Identify liability issues for inspectors.
4. Calculate equipment needs for specific projects and mechanical systems.
5. Apply elements of the mechanical code when provided specific scenario.
6. Discuss the relationship of health and safety issues to mechanical code regulations and enforcement.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction to the Mechanical Code
 - A. Historical perspective
 - B. Residential and commercial codes
 - C. Current trends that influence code applications
 - D. Regulatory agencies
 - E. Definitions/terminology
- II. Permit Process
 - A. Application
 - B. Issuance
- III. Inspection Process
 - A. State regulations and ordinances
 - B. Local variations
- IV. Liability Issues
 - A. Code compliance
 - B. Documentation
 - C. Checks and balances
- V. Equipment and Materials
 - A. Equipment standards
 - B. Installation standards
- VI. Combustion Air Requirements
 - A. Where/When combustion air requirements
 - B. Sizing of combustion air openings
- VII. Warm-Air Heating Systems
 - A. Regulations governing installation
 - B. Different warm-air systems
 - C. Vented decorative appliances
- VIII. Venting of Appliances
 - A. Types of venting systems
 - B. Types of chimney systems
 - C. Installation standards for venting systems
- IX. Ducts
 - A. Materials of ducts
 - B. Installation of ducts
- X. Ventilation Systems and Product-Conveying Systems
 - A. Environmental air ducts/product-conveying ducts
 - B. Hoods and enclosures

- XI. Cooling Systems and Refrigeration Equipment
 - A. General installation requirements
 - B. Types of refrigerants
 - C. Mechanical equipment rooms

- XII. Commercial Hoods and Kitchen Ventilation
 - A. Types of hoods
 - B. Installation requirements of kitchen hoods and ducts

- XIII. Water Heater Systems
 - A. Water heaters
 - B. Vents
 - C. Fuel/gas piping

- XIV. Health and Safety Issues
 - A. Testing procedures
 - B. Residential and commercial differences
 - C. Occupational health and safety administration regulations
 - D. Proper reporting of health and safety violations

REQUIRED READING:

International Association of Building Officials. California Mechanical Code. Whittier, CA:

International Association of Building Officials, 1998.

SUGGESTED READING:

International Association of Plumbing and Mechanical Officials. UMC Illustrated Training Manual.

Walnut, CA: International Association of Plumbing and Mechanical Officials, 1998.

REQUIRED WRITING:

Assessments of case studies consisting of at least three pages in length.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes _____ No X_____

If yes, check all that apply.

- _____ Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- _____ Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- _____ Two-Way Video Conferencing (Two-way interactive video and audio)
- _____ One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- _____ Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

A = 100 – 90%	Participation	= 10%
B = 89 – 80%	Tests and quizzes	= 50%
C = 79 – 70%	Final exam	= 40%
D = 69 – 60%		
F = 59 and below		

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes X No _____ Number of times course may be taken for credit: 2_____

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

58161 (C) (2) (A)

CONTACT PERSON: Wilma Owens, Director Vocational Programs

SIGNATURES ON FILE