

**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 89 Plumbing 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 plumbing codes. Topics covered include compliance issues, plumbing specifications, basic plumbing 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 plumbing systems.
5. Apply elements of the plumbing code when provided specific scenario.
6. Discuss the relationship of health and safety issues to plumbing code regulations and enforcement.

## **CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:**

- I. Introduction to the Plumbing 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. Estimating needs
  - C. Fittings and sizings
  
- VI. Drain, Waste, and Vent Systems
  - A. Private and public sewer systems
  - B. Regulations for sewage disposal
  - C. Water distribution systems
    - 1. Backflow prevention
    - 2. Pipe sizing
    - 3. Use of tables
  - D. Water heaters
  - E. Vents
  - F. Fuel/gas piping
  
- VII. 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 Plumbing and Mechanical Officials. California Plumbing Code. Walnut, CA:

International Association of Plumbing and Mechanical Officials, 1998.

**SUGGESTED READING:**

International Association of Plumbing and Mechanical Officials. UPC 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

**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  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:**

SIGNATURES ON FILE