

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: CI 120 Structural Plan Review

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: CI 100.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

Provides inspectors, contractors, and building department technicians with the basic methods used for structural review of plans for code compliance required before permits can be issued. The structural provisions of the Uniform Building Code will be studied and applied to typical residential and low-rise construction plan examples. The roles and responsibilities of the plan check technician in his or her job performance will be defined according to public needs, industry practice, and the Professional Engineers Act.

SPECIFIC COURSE OBJECTIVES:

The student will be able to:

1. Identify the scope and organization of structural requirements of the adopted code.
2. Explain how buildings resist loads and forces.
3. Describe the roles and responsibilities of building owner, contractors, fabricators, suppliers, design professionals, and building officials.
4. Describe the elements that should be present in a complete set of structural drawings and design calculations.
5. List the basic properties of common building materials such as timber, concrete, masonry, and steel.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction
- II. Building Codes
 - A. Industry-developed specifications
 - B. In California
- III. Legal Issues and Responsibilities in Building Construction
 - A. Purpose of the building code
 - B. A mission statement for building departments
 - C. Professional Engineers Act
 - D. Design responsibility of suppliers and fabricators
- IV. Loads and Forces
 - A. Concepts of loads, forces, moments, and stresses
 - B. Live and dead loads
 - C. Wind load
 - D. Seismic loads
 - E. Second floors and load combinations
- V. Foundations
- VI. Masonry
- VII. Connections
 - A. Single and double shear
 - B. Tension and hangar-type connections
 - C. Moment-resisting and simple framing connection
 - D. Steel connectors for timber (Simpson type)
- VIII. Wood
 - A. Spanning elements, beams and joists
 - B. Posts
 - C. Shear walls and framing
 - 1. Horizontal and vertical diaphragms and plywood
 - 2. Non-wood products, Gypsum board and stucco
- IX. Steel
- X. Concrete

REQUIRED READING:

Plan Review Manual. Whittier: International Conference of Building Officials, 1997.

SUGGESTED READING:

Uniform Building Code, Volume 2. Structural Engineering Design Provision. Whittier: International Conference of Building Officials, 1994.

Accumulative Supplement to the Uniform Building Code, Uniform Mechanical Code, Uniform Code for Building Conservation, Uniform Housing Code, Uniform Fire Code. Whittier: International Conference of Building Officials, 1996.

Parker, Harry and James Ambrose. Simplified Engineering for Architects and Builders. 8th edition. New York: John Wiley & Sons, 1993.

REQUIRED WRITING:

Students are required to complete a written analysis of various case studies of building failures. Emphasis is not on structural forensics but improved communications and procedures to prevent these occurrences. A minimum of one page of writing is required to address each case study problem.

Problem-solving skills are more important to mastering the subject matter than writing skills. Students will be assigned weekly problem-solving exercises as homework. Homework assignments will be at least one paragraph 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.

Complete class problems and assignments. Read required textbook assignments and handouts. Prepare written analysis. Study lecture notes.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

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

DISTANCE LEARNING:

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):

Quizzes=	50%	A = 92 - 100%
Final Exam=	30%	B = 82 - 91%
Exercises/Analysis=	20%	C = 72 - 81%
		D = 65 - 71%
		F = 64 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: Director, Vocational Programs, Ext. 2286

SIGNATURES ON FILE