Last updated: 12/98

San Bernardino Valley College
Course Outline

I. CATALOG DESCRIPTION:
Division: Technical Department: Welding
Course ID#: INSPEC 012
Course Title: Fundamentals of Construction Inspection III
Hours: 3 Hours/week lecture Length: 17 weeks minimum
Units: 3
Course Description: A basic study of structures, including wood, steel, and masonry construction, building occupancies, construction and separations, acoustics and sound control.
Prerequisite: INSPEC 011

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. Identify framing and construction design types:
   1. Platform
   2. Western
B. Regulate the construction of basic structural systems.
C. Determine connection requirements at intersections.
D. Recommend remedies for noncomplying structural elements.
E. Define Conventional Framing.
F. Apply the California State Code of Regulations as it regulates construction.
G. Follow a code regulated order of inspections.

IV. CONTENT:
A. Brace framing
   1. Shapes and sections
   2. Triangulation
B. Structural components
   1. Distributing elements
      a. Horizontal beams
      b. Vertical elements
      c. Trusses
   2. Diaphragm roof systems
   3. Braced and tied roof systems
C. Stress analysis
   1. Loads
      a. Dead
      b. Live
   2. Forces
      a. Seismic

b. Wind

D. Wood
1. Stress grading
2. Grain direction

E. Columns and post
1. Types
a. Single
b. Built up
c. Spaced
2. End conditions
3. Secondary stresses

F. Acoustic and sound control
1. Standard designs
2. Party walls

G. Energy conservation
1. Building envelope
2. Fenestration

H. Steel buildings
1. Design
2. Fabrication

I. Building occupancies and separations
1. Single family
2. Multi-family
3. Non-residential

J. Wall finishes
1. Flame spread rating
2. Structural
3. Fire rating

K. Field inspection procedures
1. Site location
2. Foundation
3. Framing
4. Electrical, mechanical, and plumbing
5. Insulation
6. Final

V. METHODS OF INSTRUCTION:
A. Directed discovery discussions, lectures, and video viewing
B. Instructor/student conferences to discuss specific construction problems
C. Students will do exercises in companion workbook.
D. Field trips to selected construction sites
E. Students will view videos and write corrections for observed code violations.

VI. TYPICAL ASSIGNMENTS:
A. Read assigned chapters and complete problems in the workbook.
Typical Question: Explain platform framing and identify its unique elements.
B. Use the span tables to determine the beam sizes for the attached residential structure.

VII. EVALUATION:

A. Methods of Evaluation:

1. Graded assignments
2. Mid-term
3. Final

Typical Question: Explain the requirements for stud spacing in a single family wood framed structure.

B. Frequency of Evaluation:

1. Correction notice report at the end of each topic
2. Test at the end of each topic
3. One mid-term examination
4. One final examination
5. Periodic feedback during instructor/student conferences

VIII. TYPICAL TEXT:

Illustrated Guide to the Conventional Construction Provisions of the Uniformed Building Code, 1997 or current edition, International Conference of Building Officials, Whittier, CA

IX. OTHER SUPPLIES REQUIRED OF STUDENTS: Three ring binder

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Step 3, Form A

Content Review Form
PREREQUISITE COURSE

Target Course: INSPEC 012 - Fundamentals of Construction Inspection III

Prerequisite Course: INSPEC 011 - Fundamentals of Construction Inspection II

Instructions:

List exit competencies (skills) from Prerequisite Course. These skills are listed in the "Student Outcomes" section of the Course Outline ("upon completion of the course, the student should be able to…")

Indicate which of the listed exit competencies (skills) are necessary entry skills needed for success in the target course. Mark with an "X" each needed skill.

Indicate the degree of importance of each needed entry skill for course success, using the following rating scale:

1=Critical 2=Very Helpful 3=Desirable

Skills Analysis

Exit Skills in Prerequisite Course	Entry Skills Needed for Success in Target Course (Mark with an X if needed.)	Degree of Importance (Rate 1 – 3)
1. Identify concrete and asphalt types.	X	1
2. Describe the process of concrete and asphalt manufacture.	X	3
3. Regulate the use of concrete and asphalt in structures.	X	1
4. Read and interpret a batch ticket.	X	1
5. Follow an orderly process of inspection.	X	1
6. Identify soil types that may attack and degrade concrete.	X	1
7. Evaluate steel reinforcement in concrete foundations.	X	2