

WEST VALLEY COLLEGE
Course Outline

Department: Architecture

Course Number and Title: ARCH 050 - Construction Materials & Methods

Length of course in weeks: 16

Units: 3

Total Class Hours/Week: 3

Lecture Hours/Week: 3

Grade Type: Grade/Credit/No Credit

Catalog Description: This course is a study of the various building materials, their methods of installation, and provides an overview of the structural concepts of building design.

Schedule Description: This course is a study of the various building materials and their methods of installation.

Course Outcomes: Student Learning Outcomes

Outcome: After following the different phases of a construction project, students will be able to analyze the compatibility of construction materials.

Assessment: Final presentation.

Course Objectives: Upon completion of this course the student should be able to:

1. Identify properties of a wide variety of building materials.
2. Recommend various construction materials suitable for a specific project.
3. Recommend various construction methods, assemblies, and installation procedure of a construction details.
4. Explain compatibility of different construction materials when they are posed together.

Assessment: Students in this course will be graded base on the following four categories:

1. **Writing Assignments:** reading report(s)
2. **Problem Solving Demonstrations:** quizzes and exams
3. **Skill Demonstrations:** field work
4. **Examinations:** short answers

Repeatability: 1 time

Methods of Instruction: Lecture or Online

Lecture Content:

1. Making Buildings	3.00 %
2. Foundations	5.00 %
3. Wood	5.00 %
4. Heavy Timber Frame Construction	2.00 %
5. Wood Light Frame Construction	5.00 %
6. Exterior Finishes for Wood Light Frame Construction	5.00 %
7. Interior Finishes for Wood Light Frame Construction	5.00 %
8. Brick Masonry	5.00 %
9. Stone and Concrete Masonry	5.00 %
10. Masonry Load-bearing Wall Construction	3.00 %
11. Steel Frame Construction	5.00 %
12. Light Gauge Steel Frame Construction	2.00 %
13. Concrete Construction	5.00 %
14. Sitecast Concrete Framing Systems	5.00 %
15. Precast Concrete Framing Systems	5.00 %
16. Roofing	5.00 %
17. Glass and Glazing	2.00 %
18. Windows and Doors	5.00 %
19. Designing Cladding Systems	5.00 %
20. Cladding with Masonry and Concrete	5.00 %
21. Cladding with Metal and Glass	5.00 %
22. Selecting Interior Finishes	3.00 %
23. Interior Walls and Partitions	3.00 %
24. Finish Ceilings and Floors	2.00 %

Critical Thinking: Evaluate the compatibility of the construction materials for a residential home.

College Level Required Reading, Writing, and other Outside-of-Class Assignments:

Over a 16 week presentation of the course, three hours per week are required for each unit of credit. Two hours of independent work done out of class are required for each hour of lecture. Outside of the regular class time the students in this class will be doing the following outside of class:

- **Study:** 2.00 additional hours
- **Problem solving activity or exercise:** 1.00 additional hour
- **Practice Skills:** 1.00 additional hour
- **Required reading:** 1.00 additional hour
- **Observation/Participation:** 1.00 additional hour

Textbook:

Allen Edward, Iano Joseph. Fundamentals of Building Construction: Materials and Methods. 4th ed. John Wiley and Sons Inc., 2003. ISBN: 9780471219033

Other Supplies: a 35 mm camera or digital camera