

COURSE OUTLINE
ARCM-101
Architectural Materials and Methods I
3 Semester Hours

HOWARD COMMUNITY COLLEGE

Description

This course introduces the student to the basic materials and terminology used in construction. Students will become familiar with the types of materials and supplies used in light construction and their assembly into a completed construction project. Topics include site analysis, site design and structural components such as concrete, masonry, steel and wood frame materials. Pre- or Co-requisite: CADD-100. (2 hours lecture, 2 hours lab)

Overall Course Objectives

Upon completion of this course, the student will be able to:

1. Comprehend basic vocabulary used in the construction industry.
2. Describe the Construction Specification Institute's (CSI) 16 Division Master Format used for documentation.
3. Apply the principles of CSI Divisions 1 through 8.
4. Recognize the basic site components necessary for site development.
5. Identify the properties and applications of common building materials.
6. Recognize the principles of structural theory and building integrity.
7. Identify structural components, including foundations, slabs and bearing components and explain simple detailing of the connections.
8. Identify the activities required for the completion of a construction project.
9. Interpret the specific information and tasks relevant to a construction project.
10. Explain the importance of construction drawings and specifications.
11. Describe how construction drawings and specifications interface with building construction.
12. Demonstrate the ability to comprehend and interpret blueprints.
13. Recognize the importance of environmental and regulatory impact on building design.
14. Recognize the importance and relevance of building codes.

Major Topics

- I. Introduction
 - A. Construction Systems
 - B. The Design team

- II. Sitework
 - A. Site Analysis
 - B. Design Considerations

- III. Building Systems
 - A. Structure/Loads
 - B. Mechanical/Electrical/Plumbing
 - C. Circulation Systems

- IV. Foundations
 - A. Types of Foundations
 - B. Walls
 - C. Codes

- V. Wood and Lumber Products
 - A. Lumber
 - B. Products
 - C. Fasteners

- VI. Wood Frame Construction
 - A. Floor, Wall and Roof Systems
 - B. Exterior and Interior Finishes

- VII. Masonry
 - A. Concrete and Block
 - B. Brick
 - C. Stone

- VIII. Plans, Specifications and Codes
 - A. Layout
 - B. Schedules

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will be calculated on the basis of exams, homework assignments and group projects.

Other Course Information

This course is required in the Architectural and Construction Management Program.