South Central College

BDET 1230 Materials and Methods II

Course Outcome Summary

Course Information

Description Construction methods and materials utlilized in building technologies will be examined in detail. Building materials such as wood, masonry, concrete, and metals will be analyzed as it relates to commercial applications. This application will be by a single building material and/or as an assembly (e.g. wall section). The classification of materials and project delivery systems; application of principles of building science to construction sites; relationship between technology and sustainability will also be addressed. (Prerequisites: BDET 1130)

Total Credits 3

Total Hours 64

Types of Instruction

Instruction Type	Credits/Hours
Lecture	2/32
Lab	1/32

Pre/Corequisites

BDET 1130

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Explain the use of building products and assemblies within a design project.

Learning Objectives

Comprehend Leadership in Energy and Environmental Design (LEED) principles.
Sketch various structural frame construction assemblies.
Define the building construction process.
Select materials that are sustainable.

2. Demonstrate an understanding of the methods used in steel-framed construction.

Learning Objectives
Explain non-bearing light-gauge steel framing.
Explain bearing light-gauge steel framing.
Define structural steel within specific building assemblies.

3. List the components of masonry construction.

Learning Objectives
Sketch plan details utilizing solid masonry construction.
Select masonry veneer for a construction project.
Identify various bonds and patterns.

4. Draw specific details utlilized in concrete construction.

Learning Objectives
Sketch details for precast concrete construction.
Define prestressed concrete construction.
Draw site-cast concrete construction assemblies.

5. Identify the components that make up a foundation.

Learning Objectives
Define the role of footings.
Define the role of structural steel.
List the different types of foundation walls.

6. Sketch components utilized in different floor construction assemblies.

Learning Objectives
Identify the basic terms in a floor system.
Sketch a detail regarding conventional floor framing assembly.
Determine lumber sizes from the span tables in the IBC.
Select different floor finishes for a design project.

7. Draw the components utilized in a structural wall assembly.

Learning Objectives
Identify the basic terms in wall composition.
Describe and sketch platform and balloon framing.
Identify various wall finishes.

8. Select the components used in roof construction.

Learning Objectives
Identify the basic terms in a roof system.
Identify conventional roof framing.
Identify a trussed roof system.
Specify various roof manufacturers' assemblies.

9. Apply the different types of interior wall assemblies.

Learning Objectives
Identify a curtain wall system.
Sketch different interior wall type assemblies.
List the different framing materials utilized in interior wall assemblies.

SCC Accessibility Statement

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