



South Central College

ARCH 1103 Materials & Methods 1

Common Course Outline

Course Information

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|----------------------|---|
| Description | An exploration of building materials used in commercial and residential construction. Common building materials such as wood, masonry, concrete, and metals will be examined. Basic building methods such as foundation systems, framing systems, and windows-door systems are analyzed. Introduction to architectural detail drafting and software detail component libraries is included. |
| Total Credits | 2 |
| Total Hours | 48 |

Types of Instruction

| Instruction Type | Credits/Hours |
|------------------|---------------|
| Lecture | 1/16 |
| Lab | 1/32 |

Pre/Corequisites

None

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 Outcomes

- 1. Describe the methods used in masonry construction**
Learning Objectives
Define unit masonry construction
Define cavity wall masonry and masonry veneer
Identify various bonds and patterns in masonry construction
- 2. Describe the methods used in concrete construction**
Learning Objectives
Define site-cast concrete construction (walls & floors)
Define precast / prestressed concrete construction
Identify types of reinforcing in concrete construction
- 3. Describe the methods used in steel-framed construction**

Learning Objectives

Define structural steel components and steel classification
Define loading bearing light-gauge steel framing
Define non-loading bearing light-gauge steel framing

4. Describe the methods used in wood-framed construction

Learning Objectives

Define structural wood components
Explore dimensional lumber sizes and span tables in the IBC
Explore types / sizes of engineered wood products
Explore the role of sheet products in wood construction

5. Explore the fundamentals of a foundation (masonry unit)

Learning Objectives

Identify the basic components of a masonry unit foundation system
Review reinforcing, insulating, waterproofing, and finishing for a building foundation
Draw/Draft masonry unit foundation detail using CAD/BIM

6. Explore the fundamentals used in wood framing systems

Learning Objectives

Identify the basic components in wood floor framing
Identify the basic components in wood wall framing (interior and exterior)
Identify the basic components in wood roof framing
Discuss insulating, waterproofing, fireproofing, and finishing for wood framing systems
Draw/Draft a wood framed wall detail using CAD/BIM

7. Explore Window and Door Systems

Learning Objectives

Review doors – type, material, operation, and install
Review windows – type, material, operation, and install
Draw/Draft window details using CAD/BIM

SCC Accessibility Statement

Disability Services provides accommodations and other supports to students with permanent and temporary disabilities that affect their SCC experience. Disabilities may include mental health (anxiety, depression, PTSD), ADHD, learning disabilities, chronic health conditions (migraine, fibromyalgia), sensory disabilities, and temporary disabilities (broken arm, surgery). Common accommodations are extended test time, private room for testing, audiobooks, and sign language interpreter.

Contact us: Faribault A116 (507) 332-5847. North Mankato E112 (507) 389-7222. ds@southcentral.edu
www.southcentral.edu/disability

Grading Scale

Each project, quiz, activity, and assignment will have an assigned possible number of points. Points will be awarded based on correctness of work. The total of all points earned will be divided by the maximum possible to determine a percentage. Late assignments will be accepted anytime until the semesters end **Any work handed in late (regardless of duration) will incur a 10% deduct from the grade for that instance.**

Grades will be based on the following percentage of points earned

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|----|---------|
| A | 92-100 |
| A- | 90-91.9 |
| B+ | 87-89.9 |
| B | 83-86.9 |

| | |
|----|---------|
| B- | 80-82.9 |
| C+ | 77-79.9 |
| C | 73-76.9 |
| C- | 70-72.9 |

Note: Grades below 70% will not count towards degree completion, course must be repeated

| | |
|----|----------|
| D+ | 67-69.9 |
| D | 63-66.9 |
| D- | 60-62.9 |
| F | Below 60 |

Attendance Expectation

Class attendance / participation contributes significantly to academic success. Students who attend classes regularly tend to earn higher grades and have higher passing rates in courses. Excessive absences may jeopardize your grades or even your ability to continue in this course. **Class participation will be part of your grade! The following will apply in all ARCH program courses:**

- An absence is excused ONLY if the student contacts the instructor BEFORE class.
- If you are absent from class for any reason, you are responsible for all missed work and for contacting the instructor promptly.
- Unexcused absences for 3 consecutive class sessions will reduce your final grade by 10% after the first occurrence and automatic course failure after the second occurrence. Overall attendance falling below 50% will result in automatic course failure.
- Online attendance is available at the instructor's discretion. It is reserved for extenuating circumstances and is NOT a replacement for attendance.