

Northwest Arkansas Community College
(Workforce Division)

Discipline Code

CST

Course Number

2213

Course Title

Construction Methods I

Catalog Description

This course offers the students an introduction into Carpentry and residential methods of construction. Key content includes Orientation to the Trade, Building Materials, Fasteners, and Adhesives, Hand and Power Tools, Introduction to Construction Drawings, Specifications, and Layout, Floor Systems, Wall Systems, Ceiling Joist and Roof Framing, Introduction to Building Envelope Systems, Basic Stair Layout. Hands on laboratory work will focus on applying each of the concepts learned in the classroom.

Prerequisites

CST 1313

Credit Hours

3 credit hours

Contact hours

45 lecture/lab contact hours

Load hours

3 load hours

Semesters Offered

Fall, Spring & Summer

ACTS Equivalent

N/A

Grade Mode

A-F

Learning Outcomes

Upon completing this course, the student should be able to:

- Summarize the history of the trade, career opportunities, and the importance of safety in the construction industry.
- Explain the use of building materials, fasteners, and adhesives used in construction work.
- Identify and describe the safe use and maintenance of hand and power tools used by carpenters.
- Read and interpret construction drawings and plans relevant to the carpentry trade. Create quantity takeoffs.
- Explain and demonstrate framing basics for layout out and constructing a wood floor using common lumber as well as engineered materials.
- Explain and demonstrate how to lay out and frame walls including roughing in door and window openings, constructing corners, partition Ts, and bracing walls. Use standard methods to estimate materials required for wall framing.
- Identify types of roofs and how to lay out rafters for a variety of roof types. Explain stick and truss built roofs. Paraphrase basic roof sheathing installation.
- Recognize the components of the building envelope system. Describe types of windows, skylights, exterior doors and understand the instructions for installation.
- Describe the types of stairs and common building code requirements related to stairs. Measure and calculate rise, run, stairwell openings, lay out stringers, and fabricate basic stairways.

General Education Outcomes Supported

- Students develop higher order thinking skills.
- Students can write clear, coherent, well-organized documents, substantially free of errors.
- Students develop effective oral communication skills.
- Students can achieve mathematical literacy.
- Students demonstrate information literacy.

Standard Practices

Topics list

- Orientation to the Trade
- Building Materials, Fasteners, and Adhesives
- Hand and Power Tools
- Introduction to Construction Drawings, Specifications, and Layout
- Floor Systems
- Wall Systems
- Ceiling Joist and Roof Framing
- Introduction to Building Envelope Systems

- Basic Stair Layout

Learning activities

- Courses must, at a minimum, cover the core learning outcomes for each topic. Faculty may add to these outcomes, but may not omit any of them.
- Lab safety and equipment orientation and enforcement of safety protocols is the responsibility of each faculty member.
- Laboratory exercises should average between 1-2 hours each week and include all applicable elements of the Construction Methods I performance profiles. Proficiency with hand and power tools in a variety of applications must be safely demonstrated to satisfy the competencies outlined in each of the required performance profiles (demonstration of skill).
- Since all general education outcomes are supported by specific course and program outcomes, all instructors should include learning activities that develop these outcomes in their courses and identify them in course syllabi. Instructors should describe how these activities will be evaluated in their course syllabi and/or reflected in their gradebooks.

Assessments

Exams that include closed book test, online quizzes, and performance tasks as required within NCCER Carpentry I curricula.

Grading guidelines

- 90% score of all graded assignments = A
- 80% - 89% score on all graded assignments = B
- 70% - 79% score on all graded assignments = C
- 60% - 69% score on all graded assignments = D
- <60% score on all graded assignments = F

Revision Date March 4, 2022