

Carpentry II

Credit Hours: 4-6

Description: The Carpentry II course helps learners to build general carpentry skills through NCCER General Carpentry curriculum. The included NCCER General Carpentry modules prepare individuals for positions on project sites by providing instruction and hands-on training on the components and construction systems for floors, walls, roof framing, stairs, and building envelope. Students taking this course, combined with the Carpentry I course, will be prepared to take and pass the General Carpentry exam to earn the NCCER General Carpentry credential. *All content from NCCER General Carpentry 6th edition modules.*

FLOOR SYSTEMS

Learning Objectives

1. Describe specifications and construction drawings that specify floor system requirements.
 - Summarize how specifications and architectural drawings are used in the construction of a floor.
2. Identify the types of floor framing systems.
 - Describe the types of wood-frame flooring systems.
 - List alternative flooring systems.
3. Identify floor system components and required material quantities.
 - Define sill plate and describe its role in floor framing.
 - List and recognize different types of girders and supports.
 - Describe different types of floor joists.
 - Explain the purposes of subfloor and underlayment.
 - Estimate the amount of material needed for a floor assembly.
4. Describe how to construct a platform floor assembly.
 - Summarize how specifications are organized.

Performance Tasks

1. Learning Objective 3 - Estimate the amount of material needed to frame a floor assembly from a set of plans.
2. Learning Objective 4 - Lay out and construct a floor assembly, including a rough opening and subfloor material.

WALL SYSTEMS

Learning Objectives

1. Identify the components of a wall system and de-scribe how to estimate needed framing materials.
 - List wall system components.
 - Explain how to estimate quantities of materials required to frame walls.
2. Summarize the steps for laying out and framing walls.
 - Describe how to lay out wood frame walls.

- Describe how to lay out steel frame walls.
3. Summarize the procedures for assembling and erecting wall systems.
 - Describe the steps used to assemble a wall.
 - List the four steps used to erect a wall.

Performance Tasks

1. Learning Objective 1 - Estimate materials required to frame walls.
2. Learning Objective 1 - Lay out a wood frame wall, including plates, corner assemblies, door and window openings, partition Ts, bracing, and fireblocking.
3. Learning Objective 3 - Assemble and erect a wood frame wall, including plates, corner assemblies, door and window openings, partition Ts, bracing, and fireblocking.
4. Learning Objective 3 - Correctly install sheathing on a wall.

ROOF FRAMING

Learning Objectives

1. Identify and install ceiling frame components.
 - Describe how to lay out, cut, and install ceiling joists.
 - Explain how to estimate the number of ceiling joists needed for a building.
2. Identify common residential roof types and related components.
 - Describe residential roof types.
 - List the main components of a roof.
3. Describe the methods used to lay out and cut common rafters.
 - Explain how to lay out rafters and cut them to the proper length.
4. Explain how to erect and sheath a gable roof.
 - Describe how to erect a gable roof and frame gable ends.
 - Summarize how to install sheathing on the roof.
 - Explain how to estimate the rafters, ridgeboard, and sheathing needed for a material takeoff.
5. Recognize the use of trusses in basic roof framing.
 - Describe trusses and explain how they are installed.

Performance Tasks

1. Learning Objective 1 - Lay out ceiling joists.
2. Learning Objective 1 - Estimate the number of ceiling joists required for a building.
3. Learning Objective 3 - Lay out common roof rafters.
4. Learning Objective 4 - Cut and install roof rafters for a gable roof.
5. Learning Objective 4 - Frame a gable end wall.
6. Learning Objective 4 - Erect a gable roof using trusses.
7. Learning Objective 4 - Sheath a gable roof with an opening.

BASIC STAIR LAYOUT

Learning Objectives

1. Identify stairway components and related requirements.
 - Define key stairway terms and building require.

- Describe the types of stairways.
- 2. Describe how to determine the total rise, number and size of risers, and number and size of treads needed for a stairway.
 - Summarize how to calculate the riser height, tread depth, and total run for a stairway.
 - Describe how to calculate stairwell opening sizes.
- 3. Restate the procedure for constructing stairs.
 - Explain how to lay out, cut, and build stringers and concentrate forms.

Performance Tasks

1. Learning Objective 2 - Calculate the total rise, number and size of risers, and number and size of treads required for a stairway.
2. Learning Objective 3 - Lay out and cut a stringer.

BUILDING ENVELOPE SYSTEMS

Learning Objectives

1. Describe the purpose and components of a building envelope system.
 - Identify ways to minimize air and moisture infiltration in buildings.
2. Describe window types and installation requirements.
 - Identify window types, applications, and installation steps.
3. Describe door types, applications, and installation requirements.
 - Identify residential and non-residential doors and explain installation steps.

Performance Tasks

1. Learning Objective 2 - Prepare a rough opening for proper window installation.
2. Learning Objective 3 - Prepare a rough opening for proper door installation.