



South Central College

CARP 1130 Residential Principles II

Course Outcome Summary

Course Information

Description	This course will continue the residential building project started in Residential Principles I. Students will do layout for roof trusses, ceiling joists, or rafters. The roof will be installed on the residential project to match the existing structure according to building points. All types of roof construction and roof framing will be analyzed, discussed, and implemented where applicable. Roof plywood, roof edge, ice and water guard, along with tar paper, will be installed. Students will shingle and flash the roof according to manufacturer's recommendations and local building codes. Window installation on the project will also be completed in the course. (Corequisite: CARP 1123)
Total Credits	5
Total Hours	144

Types of Instruction

Instruction Type	Credits/Hours
Lecture	1/16
Lab	4/128

Pre/Corequisites

CARP 1123 Residential Principles I

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

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. Discuss various roof styles.

Learning Objectives

- Identify gable roofs.
- Describe hip roofs.

Recognize low pitched roofs.

2. Utilize knowledge of rafter framing.

Learning Objectives

Layout common rafters.

Layout hip rafters.

Identify ridge board.

3. Explain trussed roof framing.

Learning Objectives

Identify common trusses.

Describe vaulted trusses.

Identify gable trusses.

4. Explain roof flashing.

Learning Objectives

Identify roof edge.

Explain valley tin.

5. Apply roof plywood.

Learning Objectives

Identify 1/2" orient strand board.

Describe the advantage of 5/8" plywood.

Discuss 1/2" plywood.

Install roof plywood.

6. Construct roof overhangs.

Learning Objectives

Calculate eave overhangs.

Identify gable and overhangs.

Build boxed returns.

7. Explore roof underlayment.

Learning Objectives

Install ice and water guard.

Describe 15# and 30# felt.

Install appropriate paper on roof.

8. Describe roof covering.

Learning Objectives

Explain asphalt shingles.

Identify wood shingles.

Describe metal roofing.

Follow manufacturer recommendations.

9. Apply roof ventilation.

Learning Objectives

Install soffit vent.

Apply roof vents.

Fasten ridge vent to roof.

Shingle over ridge vent.

10. Install residential windows.

Learning Objectives

Identify casement windows.

Describe double hung windows.

Explain fixed glass windows.

Follow manufacturer's recommendations for installation.

11. Install residential doors.

Learning Objectives

Explain single entry doors.
Identify patio doors.
Execute installation by manufacturer's directions.

12. Demonstrate job site safety.

Learning Objectives

Wear safety glasses.
Utilize hard hats.
Implement fall protection requirements.

13. Install insulation in ceiling and walls.

Learning Objectives

Install R-21 insulation in exterior walls.
Install R-44 insulation in ceiling.

14. Apply vapor barrier and sealant.

Learning Objectives

Apply 6 mill vapor barrier to ceiling and exterior walls.
Install acoustical sealant around window, door, and bottom plate.

15. Install drywall to ceilings and walls.

Learning Objectives

Install 5/8" drywall to ceilings.
Install 1/2" drywall to walls.
Demonstrate knowledge of appropriate screws and spacing for 5/8" and 1/2" drywall.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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