Course Information Form (CIF)

Course Code: CCA 117

Course Title: Residential Framing

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 46.0201
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 1-3-2
Credit Hour Distribution:

Lecture: 1	Lab: 3	Clinical: 0	**Total: 2**

General Course Information

Catalog Description

Various arrangements, fabricating techniques, selection of materials and equipment to construct floor systems, wall systems, and roof truss systems. Structure, harvesting, identification, and the many uses of wood in construction.

General Course Objectives

Students will be able to:

- demonstrate the ability to install a floor system according to today's standards,
- explain the methods of building wall systems,
- demonstrate the ability to install a roof truss system, and
- understand the uses of various types of wood.

Minimum Placement Levels

English	Reading	Math
Placement out of ENG 098	Placement out of CCS 098	Placement into MAT 060

Prerequisites

Credit in CCA 115

Methods of Evaluation

The minimum methods of evaluation include: 4 written exams, quizzes, lab exercises, final written exam, and practical exams.

Instructional Materials and Additional Supplies

Carpentry, Units 42, 43, 44, and 50. Koel, Leonard (2009). Homewood, Illinois: American Technical Publishers.

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Floor Framing: a) Beams and Joists, and b) Sub Floor Materials	1. List three methods of determining squareness of a building foundation. 2. Identify means of providing support for beams or girders. 3. Compare advantages of different kinds of beams. 4. List factors that determine size of joists. 5. Discuss floor joist fabrication and layout. 6. Determine size, species, grade, spacing, and quantity of wood joist needed. 7. Discuss different types of subfloor available, application theory, and correct methods of fastening. 8. Develop a list of fasteners and hardware used in fabricating floor components. 9. Determine amount of subflooring needed for a building. 10. Demonstrate the ability to install a floor system safely.	4	13	0
Wall Systems	1. Sketch/illustrate the various methods of fabricating corner parts, explaining appropriateness of each. 2. Identify and explain bracing exterior partitions. 3. Identify the structural differences between the balloon, platform, and post and beam methods of wall construction. 4. Properly locate where wall backing members will be needed. 5. Describe different methods used to determine squareness of a wall and how to erect walls that are plumb. 6. Develop a list of exterior sheathing materials, and explain methods of application.	3	11	0
Roof Trusses	1. Identify and explain the components of a roof truss. 2. Explain the principles of roof truss design. 3. Recognize various types of roof trusses, explaining the differences. 4. Describe how to install temporary braces and why they are used in the installation of the roof trusses. 5. Describe how metal truss anchors function, and explain the theory of them. 6. Calculate the quantity of roof trusses needed for a given job. 7. Compute the quantity of roof sheathing needed for a given job. 8. Compare and discuss the different types of roof sheathing available. 9. Define a 3-ply or 5-ply roof application. 10. Use appropriate terminology for roof, walls, and floors in verbal or written communications.	3	10	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Wood	1. Describe the common growth patterns of trees. 2. Explain how trees are converted to lumber. 3. Identify common defects in lumber. 4. Describe the methods of sawing. 5. Define moisture content and specific gravity of wood. 6. Explain the properties and differences between hardwood and softwood. 7. Explain how plywood is made. 8. Identify several applications of plywood. 9. Calculate board footing using the arithmetic method.	3	11	0
Exams	1. Successfully complete the required exams.	2	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	45	0