Course Information Form (CIF)

Course Code: CIT 135

Course Title: Residential Building Systems

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 04.0902
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

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

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

General Course Information

Catalog Description

Introduction to the principles and practices of residential construction. Hands-on projects emphasize planning, materials, methods, and drawings, with attention to building codes and M.E.P. systems.

General Course Objectives

Equip students with fundamental knowledge of planning, materials, and methods, while engaging in hands-on projects that reflect real-world residential and light commercial construction.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 059

Prerequisites

Credit in CIT 118
Credit or concurrent enrollment in CIT 130

Methods of Evaluation

At least 10 graded assignments and at least 2 objective exams.

Instructional Materials and Additional Supplies

Modern Capentry, 13th Edition
Author(s): Jones, Wagner, Smith, and Huth
Publisher: G-W
ISBN: 1645646602

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
Plans and Construction Specifications	1. Identify specific details and materials of construction, given specifications and plans for a residence.	3	3	0
Foundations, Waterproofing, and Drainage	1. List advantages and disadvantages of foundation systems. 2. Describe good drainage practices.	3	3	0
Exterior Walls, Windows, and Doors	1. Recognize various residential construction systems such as balloon, platform, and post and beam framing; masonry bearing walls; etc. 2. Describe types of windows and doors, how their openings are framed, and how they operate.	3	3	0
Floor, Ceiling, and Interior Wall Construction	1. Explain past and present floor, ceiling, and wall framing systems. 2. Describe proper notching or drilling practices in framing.	3	3	0
Roof Systems	1. Distinguish roof styles and roof framing systems, i.e. trusses, rafters, joists, post and beam, etc. 2. Explain shingle roof construction and built-up roof construction and describe good quality construction in each.	3	3	0
Insulation and Moisture Control	1. Explain purposes, materials, and proper installation of flashing. 2. Identify various insulation materials and their proper installation. 3. Demonstrate an understanding of moisture control for insulation and foundation protection.	3	3	0
Coatings and Sealants	1. Discuss differences in usage of oil base, alkyd, and latex paints; stains; miscellaneous coating materials; joint sealant materials; and their uses and good application procedures.	2	0	0
Heating Systems	1. Identify heating systems: gas, hydronic, geothermal, and electric. 2. Explain humidity control devices.	2	3	0
Air Conditioning	1. Identify air conditioning systems and equipment.	2	3	0
Plumbing	1. Identify plumbing materials in new construction. 2. Explain proper operation of supply piping and drain, waste, and vent piping systems. 3. Discuss private sewage disposal systems, how they function, and problems inherent in their usage.	2	3	0
Electrical	1. Identify electrical system components. 2. Describe safety features in residential electrical power systems.	2	3	0
Building Codes	1. Describe the purposes of building codes. 2. Name the codes applicable to residential construction.	2	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0