

ATCT-2520: STAIRS INSTALLATION

Cuyahoga Community College

Viewing: ATCT-2520 : Stairs Installation

Board of Trustees:

May 2024

Academic Term:

Fall 2024

Subject Code

ATCT - Appld Indus Tech - Carpentry

Course Number:

2520

Title:

Stairs Installation

Catalog Description:

Introduction to the art and science of laying out, fabricating, and installing fine staircases which are mitered and have hard balustrades using newel posts, rails, and balusters.

Credit Hour(s):

2

Lecture Hour(s):

2

Lab Hour(s):

0

Requisites

Prerequisite and Corequisite

Departmental approval: admission to any Applied Industrial Technology program.

Outcomes

Course Outcome(s):

Design, layout, and fabricate straight and mitered staircases.

Objective(s):

1. Sketch a staircase design.
2. Differentiate between straight and mitered stairs.
3. Demonstrate correct use of appropriate hand and power tools.

Course Outcome(s):

Install newel posts, railings, and balusters using various jointing techniques.

Objective(s):

1. List those components generally associated with mitered staircases having balustrades.
 2. Identify the hand and power tools used in the fabrication and installation of mitered staircases having balustrades.
 3. Locate, fit, and install newel posts.
 4. Locate, fit, and install railings and balusters to newels.
 5. Use various jointing techniques to assemble specialized components of stairs.
 6. Create and produce a straight hand rail.
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Methods of Evaluation:

1. Quizzes
2. Exams
3. Classroom Participation
4. Completion of assigned projects

Course Content Outline:

1. Concepts
 - a. Procedural design and layout of stairs
 - b. Carriage and stringer layout
 - c. Component terminology
 - i. Newel posts
 - ii. Railing, baluster
 - iii. Mitered staircase
 - iv. Fasteners'
 - v. Specialized components
 - d. Fitting and installation techniques
 - e. Jointing techniques
 - f. Hand rail production techniques
 - g. Railing layout/placement techniques
 - h. Railing/baluster placement and installation techniques
 - i. Templates
 - j. Total rise calculations
 - k. Number of rises calculations
 - l. positioning and mounting techniques
 - m. Securing techniques
 - n. Plugging procedures
 - o. Carriage installation techniques
 - p. Newel post installation techniques
2. Skills
 - a. Assembling mitered staircase
 - b. Building mitered staircase using stringer/carriage layout
 - c. Using hand and power tools to assemble mitered staircases
 - d. Locating centerline of newel posts
 - e. Positioning and installing newel posts
 - f. Plugging
 - g. Centering newel posts
 - h. Mounting newel posts
 - i. Determining length/scribing and location of railing and balusters
 - j. Placing and installing railing and balusters
 - k. Assembling and finishing specialized components such as jointing, following a templates, and installing hardware
3. Issues
 - a. Compliance with appropriate Building Codes
 - b. Safety
 - c. Scrapping/Salvaging materials

Resources

Koel, Leonard. *Carpentry*. 7th ed. Homewood IL: American Technical Publishers, 2021.

Schuttner, Scott. *Basic Stairbuilding*. Newton: Taunton Press, 1990.

Stair Framing. Las Vegas, NV: Carpenters International Training Fund, 2014.

Badzinski, Stanley. *Stair Design and Layout: Second Edition*. Orland Park, IL: American Technical Publishers, 2010.

Carpenters International Training Fund. *Interior Finishes 2*. Las Vegas, NV: Carpenters International Training Fund, 2019.

Occupational Safety and Health Administration, United States Department of Labor. . *Code of Federal Regulations 1926*. National Safety Compliance, 2022.

Resources Other

Carpenters International Training Fund. <https://www.carpenters.org/citf-training/>. 2024

Top of page

Key: 286