

ATIN-2110: ADVANCED METAL JACKETING I

Cuyahoga Community College

Viewing: ATIN-2110 : Advanced Metal Jacketing I

Board of Trustees:

October 2024

Academic Term:

Spring 2025

Subject Code

ATIN - Applied Industrial Technology - Insulators

Course Number:

2110

Title:

Advanced Metal Jacketing I

Catalog Description:

Review basic geometric construction. Develop introductory to moderate level layout skills to create equal tees, unequal tees, Equal lateral wyes, and endcaps to be used for metal jacket fabrication.

Credit Hour(s):

3

Lecture Hour(s):

3

Requisites

Prerequisite and Corequisite

Departmental approval: admission to Heat and Frost Insulator's apprenticeship program.

Outcomes

Course Outcome(s):

Reinforce the basic skills for rudimentary geometric construction.

Objective(s):

1. Review line construction.
2. Establish angle bisects.
3. Develop selected curvilinear constructions.

Course Outcome(s):

Develop the skills for beginner level layouts for metal jacketing.

Objective(s):

1. Obtain accurate measurements to design tees.
2. Construct various tees.
3. Obtain accurate measurements to design wyes.
4. Construct various wyes.

Course Outcome(s):

Develop the skills for moderate level layouts for metal jacketing.

Objective(s):

1. Obtain accurate measurements to design endcaps.
2. Construct various endcaps.

Methods of Evaluation:

1. Quizzes from International
2. Tests from International
3. Final exam from International
4. Graded projects
5. Caliper and Divider skills practice
6. Estimation exercises
7. Homework worksheets
8. Geometric construction projects

Course Content Outline:

1. Geometric Construction Review
 - a. Bisect Straight line
 - b. Construct perpendiculars
 - c. Construct parallel lines
 - d. Divide line into equal parts
 - e. Bisect angles
2. Beginner layouts for Metal Jacketing
 - a. Tees
 - i. Equal
 - ii. Unequal
 - iii. Valves
 - iv. Mono
 - b. Lateral wyes
 - i. Equal
 - ii. Unequal
 - iii. One piece
3. Moderate layouts for Metal Jacketing
 - a. Endcaps
 - i. Flat endcaps
 1. One piece
 2. Two-piece
 - ii. Bevel endcaps
 1. 45 bevels
 - iii. Reducing
 1. Concentric
 2. Eccentric

Resources

"Shop Fabrication Layout & Patternmaking Student Manual" International Association of Heat and Frost Insulators and Allied Workers, 2014.

Metal & Rubber Layout Book. International Association of Heat and Frost Insulators and Allied Workers, 2018.

First Year Math Manual. Heat and Frost Insulators. Local 3 Cleveland, Ohio, 2019.

Resources Other

Insulators Union - YouTube 2024.

www.jatctraining.com 2024.

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Key: 5282