

# ATMW-1720: MACHINERY INSTALLATION

## Cuyahoga Community College

**Viewing: ATMW-1720 : Machinery Installation**

**Board of Trustees:**

2007-05-24

**Academic Term:**

Fall 2025

**Subject Code**

ATMW - Appld Ind Tech - Millwrighting

**Course Number:**

1720

**Title:**

Machinery Installation

**Catalog Description:**

Introduction to layout, leveling, and installation of heavy industrial equipment. Topics include hand rigging techniques, proper forklift operations, shoring, heavy timber, false work, and installation of equipment according to OSHA regulations.

**Credit Hour(s):**

2

**Lecture Hour(s):**

2

## Requisites

**Prerequisite and Corequisite**

Acceptance to Millwrighting Technology apprenticeship program, and ATCT-1301 Introduction to Carpentry, or departmental approval.

## Outcomes

**Course Outcome(s):**

Work safely, effectively, and efficiently on a job site where machinery is being installed.

**Objective(s):**

1. Demonstrate layout techniques by reading a print and establishing centerlines and elevations.
2. Demonstrate proper leveling techniques using precision leveling equipment.
3. Identify components used to hand rig heavy equipment.
4. Operate forklift equipment following OSHA regulations.
5. Use all applicable safety precautions.
6. Identify various types of shoring scaffold and their different uses.
7. Demonstrate the ability to set up and dismantle ?x? tubular steel framed shoring.
8. Identify the correct use of heavy timber used in false work.

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## Methods of Evaluation:

1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of assigned projects

## Course Content Outline:

1. Concepts
  - a. Prints
  - b. Print reading

- c. Centerline establishment
- d. Elevations
- e. Leveling procedure: optical equipment
- f. Leveling procedure: shimming
- g. Leveling procedure: machinist level
- h. Leveling procedure: tolerances
- i. Heavy equipment
- j. Hand rigging heavy equipment components
- k. Final installation stage of heavy equipment
- l. Shoring scaffold
- m. "X" tubular steel framed shoring
- n. Heavy timber
- o. False work
- p. Hoisting
- q. Jacking
- r. Cribbing
- s. OSHA regulations
- t. Forklift equipment
- u. Forklift maneuverability
- v. Anchor bolts
- w. Grout

2. Skills

- a. Reading a print and establishing centerlines and elevations
- b. Using precision leveling equipment
- c. Identifying and using hand rig heavy equipment components
- d. Operating forklift equipment following OSHA regulations
- e. Securing and placing heavy equipment in the final installation stage
- f. Using all applicable safety precautions
- g. Identifying and applying knowledge of various types of shoring scaffold and their different uses
- h. Setting up and dismantling "x" tubular steel framed shoring
- i. Identifying and applying knowledge of the correct use of heavy timber used in false work
- j. Hand rigging safely, effectively, and efficiently
- k. Hoisting safely, effectively, and efficiently
- l. Jacking safely, effectively, and efficiently
- m. Cribbing safely, effectively, and efficiently
- n. Maneuvering a forklift safely, effectively, and efficiently
- o. Performing final installation including anchor bolts and grout

3. Issues

- a. OSHA safety regulations
- b. Professional demeanor to promote credibility of the trade
- c. Communication skills to promote effective interpersonal skills

## Resources

Carpenters International Training Fund. *Machinery Installation*. Las Vegas, NV: Carpenters International Training Fund, 2007.

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Carpenters International Training Fund. *Introduction to Millwrighting*. Las Vegas, NV: Carpenters International Training Fund, 2011.

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## Resources Other

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

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