

# ATRF-2010: UNION HERITAGE AND QUALIFIED RIGGER AND SIGNAL PERSON

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## Cuyahoga Community College

**Viewing:** ATRF-2010 : Union Heritage and Qualified Rigger and Signal Person

**Board of Trustees:**

January 2025

**Academic Term:**

Spring 2025

**Subject Code**

ATRF - Applied Industrial Technology - Roofing

**Course Number:**

2010

**Title:**

Union Heritage and Qualified Rigger and Signal Person

**Catalog Description:**

Covers history of the Roofing and Waterproofing industry. Also includes rigging and signaling techniques. Upon successful completion of the course, students will earn their OSHA Qualified Rigger and Signal Person certification.

**Credit Hour(s):**

1

**Lecture Hour(s):**

1

## Requisites

**Prerequisite and Corequisite**

Departmental approval: Admission to Roofer's Apprenticeship program.

## Outcomes

**Course Outcome(s):**

Apply the OSHA Rigging and Hoisting standard contained in Subparts H and CC covering work scope, ground conditions and power line safety including key terms and definitions.

**Essential Learning Outcome Mapping:**

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

**Objective(s):**

1. List key terms related to rigging and hoisting.
2. Discuss what is meant by a competent person and explain the respective duties of the position.
3. Differentiate between a qualified rigger and qualified person as defined by OSHA.
4. Explain the signal person classification and identify the duties performed.
5. Discuss common errors occurring on jobsites that may result in rigging accidents.

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**Course Outcome(s):**

Discuss hoisting devices, including hardware and slings, respective functions and describe inspection procedures used in identifying equipment defects.

**Essential Learning Outcome Mapping:**

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

**Objective(s):**

1. Identify OSHA equipment removal criterion for each type of sling.
2. Identify the parts of a hoisting hook assembly and explain the function of each.
3. List the different types of rigging hardware and discuss respective applications.
4. Describe different sling configurations and explain the application of each.
5. Identify and explain the permanent markings on synthetic slings and explain the meaning of each.

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**Course Outcome(s):**

Discuss the responsibilities of a signal person and, methods of communication and accepted signaling procedures.

**Objective(s):**

1. Identify situations that warrant the use of a signal person.
2. Identify different forms of communication between the signal person and the crane operator.
3. Discuss the importance of good communication practices between the hoist operator and the signal person.
4. Demonstrate the ability to apply accepted hand signals required for hoisting materials and equipment on construction sites.

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**Course Outcome(s):**

Describe the history of Organized Labor.

**Objective(s):**

1. Identify the different eras of the union and the history.
2. Discuss the roles that each individual union has played.
3. Explain the origins of United Union Roofers & Waterproofers & Allied Workers
4. Discuss the modern labor movement.
5. Explain the benefits of union membership vs. Non-union membership.

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**Methods of Evaluation:**

1. Quizzes
2. Tests
3. Classroom participation

**Course Content Outline:**

1. OSHA Subpart H and CC
  - a. Rigging equipment for material handling
    - i. Types
    - ii. Placement
    - iii. Housekeeping
  - b. Inspection procedures
    - i. Equipment defects
    - ii. Defect identification
  - c. Terms and definitions
    - i. Hoisting
    - ii. Rigging
  - d. Standards
    - i. Permanent markings
    - ii. Safe working loads
    - iii. Scope
    - iv. Alloy steel chains
    - v. Welded steel chain slings

- vi. Hooks, rings, oblong links
  - vii. Shop hooks and links, makeshift fasteners
- e. Wire rope
- f. Cranes and derricks in construction
- g. Competent Person
  - i. Experience
  - ii. Responsibilities
- h. Qualified Rigger
  - i. Definition
  - ii. Duties
- i. Competencies
  - i. Hand signaling
  - ii. Verbal skills
  - iii. Safety training
  - iv. Decision making
  - v. Environmental awareness
- 2. Hoisting devices
  - a. Slings
    - i. Wire rope
    - ii. Metal mesh
    - iii. Synthetic
    - iv. Chains
  - b. Components
    - i. Lifting grade chain
    - ii. Load binders and grab hooks
    - iii. Links and assemblies
    - iv. Chain hooks
    - v. Shackles
    - vi. Turnbuckles
    - vii. Hoist rings
    - viii. Sling configurations
    - ix. Single basket hitch
    - x. Double basket hitch
    - xi. Double wrap basket hitch
    - xii. Choker
      - 1. Single
      - 2. Double wrap
      - 3. Sling identification
      - 4. Material
      - 5. Length
      - 6. Lifting limitation
    - xiii. Multi legged bridles
  - c. Removal criterion
    - i. Wire rope
      - 1. Broken strands
      - 2. Kinks
      - 3. Birdcage
      - 4. Abrasions
    - ii. Synthetic slings
      - 1. Red wearing thread
      - 2. Charring
      - 3. Cuts
      - 4. Missing tags
- 3. Signal person
  - a. Requirements
    - i. Visual obstructions
    - ii. Coordination of operations
  - b. Communication

- i. Hand signals
  - ii. Voice commands
    - 1. Radio
    - 2. Telephone
    - 3. Electronic device
  - iii. Communication practices
    - 1. Jobsite conditions
    - 2. Personnel
    - 3. Lifting equipment
  - iv. Hand signaling
    - 1. Boom in or out
    - 2. Travel
    - 3. Lifting
    - 4. Hoist
    - 5. Stop
    - 6. Emergency stop
    - 7. Swing
- 4. Roofer's History - 19th Century - 21st Century
  - a. 1903 First Union - International Slate and Tile Roofers Union of America
  - b. 1906 International Brotherhood of Composition Roofers, Damp and Waterproof Workers
  - c. 1919 Unions Merged into International
    - i. Original site of International was Cleveland, Ohio
    - ii. Later, the headquarters moved to Chicago
    - iii. Today headquartered in Washington D.C.
  - d. Modern International Union
- 5. Modern Labor Movement
  - a. Industrial Revolution
  - b. Early-mid-20th Century
  - c. Post WWII Boom
  - d. Union Decline
  - e. Current Public Opinions

#### **Resources Other**

OSHA29 CFR 1926.1400 Subpart CC and ASME B30 <https://www.osha.gov/laws-regs/regulations/standardnumber/1926> (<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/>)

Top of page

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