



Missouri Valley JATC Mobile Training Services

Advanced Rigging Certification Course

COURSE DESCRIPTION

This course is designed to teach the student about the tensions associated with common rigging used on the job site. The proper application of knots and the effects that knots have on ropes are discussed in detail. In addition, students will learn about the mechanical advantage gained with parted blocks, tensions with snatch blocks, and safety when working around mechanical equipment. A full review is provided discussing OSHA standards and inspection requirements related to safe lifting and rigging operations. Class includes a learning session on weights, forces, and tensions found on a utility system and teaches the learner how to make those calculations in the field using several methods.

LEARNING OBJECTIVES

Module 1 – Inspection Standards

- Explain the proper identification and inspection of rigging equipment.
- Identify common causes of damage with slings, shackles, and rigging equipment.
- Explain various OSHA requirements related to the proper maintenance, inspection, and safe use.

Module 2 – Rope Types

- Identify the types of ropes most commonly used in the power delivery industry.
- Explain the use, care, and strength requirements associated with rope.
- Define catalog breaking strength, working load limit, and design factor.
- Calculate working load limit.

Module 3 – Knots

- Identify knots common to the power delivery industry.
- Tie knots that are common to the power delivery industry.
- Calculate the efficiency of knots common to the power delivery industry.

Module 4 – Slings, Chain, and Shackles

- Identify vertical, choke, and basket configurations for slings.
- Describe characteristics associated with the types and designs of slings.
- Explain the information found on a sling tag.
- Distinguish between material shackles and rigging shackles.
- Explain proper use and care of slings, chains, and shackles.

Module 5 – Sling Angles

- Identify a vertical sling configuration.
- Explain how angles increase sling tension.
- Calculate the leg tension of slings at various angles.

Module 6 – Parted Blocks Mechanical Advantage

- Identify parted blocks.
- Explain how to inspect and store parted blocks.
- Explain how a mechanical advantage is gained by using parted blocks.
- Calculate the mechanical advantage and strains when using parted blocks.

Module 7 – Weights and Forces

- Illustrate the weights and forces found on a power line.
- Explain how to calculate wire weight on an insulator from various angles.
- Explain how to calculate guy tensions at both dead ends and bi-secting angles.