

## Hoisting and Rigging Refresher Syllabus

**Time:** 8 hours

**Maximum Class Size:** 12

**Prerequisites:** Hoisting & Rigging

**Course Description:** This course is designed to review safe work practices for working with and around cranes, rigging and hoisting loads, working around power lines, and communicating with the operator by using hand signals or voice commands. All concepts will comply with OSHA Crane and Derrick Standard: 1926.1427 Subpart CC regarding the use of cranes and derricks in construction. It also addresses ANSI A10.42: Rigging Qualifications and Responsibilities.

### Goals/Objectives/Student Learning Outcomes:

- Describe six safe practices for working with cranes, and describe how each practice can prevent crane accidents
- Describe and demonstrate five safe work practices related to rigging and hoisting
- Using scenarios involving cranes working near high voltage lines, give the minimum clearance between the crane and the lines based on OSHA standards
- Define the regulations that must be followed, and work practices that must be used, when using cranes to hoist personnel
- Determine load weights and centers of gravity for sample construction objects using standard formulas
- Explain the effect that sling angle has on the sling and calculate sling tensions for different situations
- Identify six types of rigging hardware, their function, how to inspect them, and the conditions that would require them to be taken out of service
- Identify five materials that slings are made of, how to inspect them, and the conditions that would require their removal from service
- Describe eight sling configurations that can be used in rigging operations, including any advantages and disadvantages of each
- Describe five responsibilities of signal person
- Demonstrate the ability to correctly perform at least 15 standard hand signals
- Demonstrate the ability to communicate with an operator by using clear and precise voice commands

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### Standards

- OSHA 1926.1427 Subpart CC: Cranes and Derricks in Construction.
- ANSI A10.42: Rigging Qualifications and Responsibilities.

### Classroom Rules and Procedures

- All classes begin at 6:30 am and end at 3:00 pm
- Upon entering classroom, all participants must sign in and be seated by 6:30 am
- Class will consist of a combination of lecture, video, demonstration, coached group exercises, individual exercises and assessment.
- Students are required to report to class ready to work and maintain the provided PPE

### Textbooks/Readings/Materials

- LIUNA: *Hoisting & Rigging* PG
- LIUNA: Hoisting & Rigging Refresher IG
- Hoisting & Rigging Refresher Student Handout Packet
- LIUNA: Hoisting & Rigging Refresher Exit Exam A or B
- LIUNA: Hoisting & Rigging Refresher Power Point
- Hoisting & Rigging Refresher Exit Exam Answer Sheets

### Other Tools and Materials

- Various size thimbles
- Various sizes and types of shackles
- Shouldered eye bolts
- Non-shouldered eye bolts
- Hoist rings of different sizes, shapes & materials
- Turnbuckles with different end fittings
- Links or rings of different sizes and shapes
- Hooks with safety latches

### Personal Protective Equipment

- 20 pairs of gloves
- 20 pairs of Safety Glasses
- 20 pairs of Ear plugs
- 20 hard hats

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### Course Requirements

To receive credit for the course, participants must:

- Be present for full eight hours
- Participate in all classroom exercises
- Pass a written exam

### Course Policies

- Participants must be on-time and ready to work.
- Participants must return from breaks on-time.
- Participants must participate in each exercise and assignment
- Participants who are on “light duty” are not allowed to take this course due to the physically demanding requirements.

### Assessment and Grading

Participants will be assessed on the following:

- All written exams must be passed with a score of 80% or above.
- All hands-on exercises are graded on performance and participation. They are pass/fail and must be passed with a score of 80% or above.

### Safety

Failure to maintain and use PPE may result in dismissal from the course.