



OVERHEAD CRANE & RIGGING COURSE OUTLINE

Price: \$375/student

Duration: 10 hours

Cranemasters Overhead Crane & Rigging course is a 10-hour interactive program that trains the students on basic overhead crane operation and rigging practices. The course can be completed in a one or two-day format, which includes seven hours of theory and three hours of practical training.

1.0 INTRODUCTION

- Guidelines for Training of Overhead Crane Operators and their Supervisors
- Understanding that there are physical and mental qualifications, Understanding that there are no set standards to be an overhead crane operator only guidelines.
- Let the class know that there will be a 70% pass mark required.

2.0 OCCUPATIONAL HEALTH and SAFETY (Act, Regulation and Code)

- Review the OH&S Act, Regulation and Code as it pertains to Hoisting and Rigging Equipment:
 - Obligations of the Employer and Worker
 - Existence of Imminent Danger
 - Duties of Workers
 - Safety Training Requirements
 - Definition of 'competent' and 'direct supervision'
 - Specifications and Certifications
 - Cranes Hoists and Lifting Devices
 - Rigging

3.0 OVERHEAD CRANE COMPONENTS

The list below will be taught as General Information only, the workers must read the manufactures manual of the overhead crane before use.

- Bridge Crane
- Crane Disconnect / Collectors / Busbar / Festoon / C-Track
- Controller Pendant & Radio
- Deflection of the Bridge
- Drift Point
- Emergency Stop
- End Stops
- Hoist
- Anti - Collision
- Limit Switches Upper and Lower
- Mainline Contactor

- Overload Limiting Device
- Plugging
- Runways
- Sheaves / Load Block / Hook
- Side Pull and Rope Guides
- Trolley
- Parking the Overhead Crane

4.0 DETERMINING LOAD WEIGHTS

- Calculate Volumes of Squares, Rectangles, Square Tubes, and Cylinders
- Utilize Formulas (from the rigging handbook) to determine weights. Each student will be given a rigging handbook to keep that includes the formulas
- Density of Materials chart is included in the rigging handbook

5.0 SLING TENSION

- Determine sling angles
- Sling tension calculations: The students will be provided with the information to calculate the individual sling tension on a two legged balanced load
- How sling tension changes at various angles
- Vertical, Choke and Baskets Hitches and how their capacities can vary depending on how the sling is attached to the load
- Explain that slings being used at angles less than 60 degrees should be doubled wrapped to prevent them from slipping inward
- Importance of reading the manufactures owners manual before utilizing rigging components
- The effect on a slings capacity around a sharp corner (Always use approved edge protection) (Always consult the manufactures specifications for de-rating factors)

6.0 HAND SIGNALS

- Teach Overhead Crane hand signals and have the students complete a hand signal quiz

7.0 TAGLINES & HAND PLACEMENT

- Cranemasters will teach a tagline is required on all loads except for limited final positioning and not to use a tagline if it puts the worker in danger. Recommend your company develop its own tag line policy.

8.0 RIGGING HARDWARE (ASME B30.26)

The basics of inspection and application of each will be taught, the user will have to read the manufactures owners manual before use for specific inspection and application requirements

- Shackles
- Eyebolts and Swivel Hoist rings
- Importance of reading the manufactures owners manual



9.0 SLINGS (ASME B30.9)

The basics of inspection and application of each will be taught, the user will have to read the manufactures owners manual before use for specific inspection and application requirements

- Synthetic Web and Polyester Round Slings
- Wire Rope Slings
- Chain Slings
- Importance of reading the manufactures owners manual

10.0 HOOKS (ASME B30.10)

The basics of inspection and application of each will be taught, the user will have to read the manufactures owners manual before use for specific inspection and application requirements

- General application and inspection of hooks
- Importance of reading the manufactures owners manual

11.0 HOMEMADE AND ENGINEERED LIFTING DEVICES (Part 3 of Alberta OH&S)

Cranemasters will teach that the user will have to read the manufactures or engineer owners manual before use for the specific inspection and application requirements

- What is a homemade lifting device
- Engineering requirements
- Marking and labeling requirements
- Employers requirements.
- Operator requirements.
- What are the pre use inspection requirements
- Worker to confirm it has had an annual inspection
- Must read owners manual before use.

12.0 BELOW THE HOOK LIFTING DEVICES (ASME B30.20)

The basics of inspection and application of each will be taught, the user will have to read the manufactures owners manual before use for specific inspection and application requirements

- Spreader Bars
- Plate Clamps
- Reference the A.S.M.E. B30.20 standards
- Importance of reading the manufactures owners manual

13.0 OVERHEAD CRANES AND HOISTS

The user will have to read the manufactures owners manual before use for the specific type of crane they will be using.

- Single Girder, Double Girder and Jib Cranes
- Where will the logbooks be located?
- Overhead Crane Log book requirements
- Reference to the CSA B167 standards
- Stress the Importance of reading the manufactures owners manual
- Ask what are your companies procedures and policies when a crane has been side loaded
- Ask what are your companies procedures and policies when a crane has been shock loaded

- All cranes must have anti-collision devices
- Requirements and importance of knowing where the Overhead Crane and Jib Crane disconnect switches are located
- What are the lock out tag out procedures
- Radio control crane operator must be visually distinguishable
- 2 Crane lifts will not be taught
- Leaving an Overhead Crane unattended with a suspended load is not allowed

14.0 MANUALLY OPERATED HOISTS (ASME B30.21)

The basics of inspection and application of each will be taught, the user will have to read the manufactures owners manual before use for specific inspection and application requirements.

- Hand Chain and Lever Hoists
- Proper application and use.
- Importance of reading the manufactures owners manual before use

15.0 THEORY TEST

- Pass mark is 70% and reviewed in class

16.0 PRACTICAL APPLICATION CONFIRMATION

- Students, in groups will demonstrate what they have been taught in the training course
- Identify potential hazards of the area
- Move the overhead crane with out a load on a pre-determined path
- Demonstrate proper control of a crane without a load
- Demonstrate safe body positioning while moving an unloaded crane
- Experience to be confirmed by the employer for the type of equipment the employee is required

CRANEMASTERS HOISTING + RIGGING TRAINING
For more information, please contact Rick at 780-417-5057.
www.cranemasters.ca

CRANE TECH SERVICE & REPAIR LTD.
For more information, please contact Ming at 780-988-8822.
www.cranetechservice.com

