



Department-Approved Course Requirements

Course Title:	16-Hour Rigger Supervisor Refresher
Course Required for:	<input checked="" type="checkbox"/> Worker Training
Purpose:	This course is a requirement for an individual – who is not a licensed rigger or a designated foreman of a licensed rigger – to maintain his/her designation to supervise the hoisting or lowering of articles on the outside of a building with hoisting equipment. In lieu of completing this course, an individual may instead possess a department approved national rigging certification.
Duration:	16 Hours of instructional time, excluding breaks & meals
Class Size:	1 – 30 trainees
NYC Requirement:	To continue to supervise the hoisting or lowering of articles on the outside of a building with hoisting equipment – and a licensed rigger or designated rigging foreman is not required for such work – an individual must either (i) complete this refresher training course every four years following the completion of the 32- Hour Rigging Supervisor course & every four years thereafter, or (ii) possess a department approved national rigging certification.
Facility Requirements:	<p>The Training Facility used by the Course Provider must:</p> <ul style="list-style-type: none">• Have sufficient room to accommodate all expected attendees and the equipment needed to perform hands-on exercises where required as part of the course;• Make provisions for the presentation of training material in all media types (computer, projector, video/DVD player, etc.); and• Comply with all applicable laws, rules & regulations relating to occupancy, zoning, egress, fire detection, fire suppression, light, ventilation, cleanliness, sanitary facilities, emergency notification & evacuation procedures. <p>Training may be held at construction sites, provided the above requirements are met.</p>
Instructor Requirement:	To deliver this course the instructor(s) must demonstrate that he or she is credentialed or trained in instructional methods and learning processes. The instructor(s) must also successfully demonstrate his or her ability to solve or resolve problems relating to the subject matter by possession of a recognized degree, certificate, licensure or professional standing, or by extensive knowledge, training, and experience, in the subject matter being taught. To the extent that the course instructor(s) holds, or has held, a trade license issued by the Department, it must be in good standing and not be surrendered to, suspended by or revoked by the Department.
Curriculum Requirement:	All topics listed under Course Content Outline must be covered using the listed Instructional Delivery Method . The time dedicated to each outline topic should be appropriate for the course content and can vary depending on the trade or job performed by the trainee. The Instructional Delivery Materials used in this course must contain all current applicable NYC Construction Code references, current rules, policies & bulletins.

Course Content Outline

Instruction Delivery Method

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| <p>1. Introduction to Cranes & Derricks
 Include instruction on inspection, maintenance, repair, use, installation, hazards associated with the relevant sections of the building code and industry practice with regards to Rigging</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>2. Crane & RIGGING Accidents
 Common causes of accidents with cranes
 Historical crane accidents in NYC and other major cities
 Overview of rigging incident statistics for the most current 24-month period:
 Failure; injury; death. Close review of two failure scenarios with emphasis on what went wrong and how the incident could have been prevented.</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>3. CFR 29 OSHA 1926 Overview
 Subparts: E (PPE-Personal Protective Equipment),
 H (Material Handling, Storage),
 K (Electrical),
 L (Scaffolds),
 M (Fall Protection),
 CC (Cranes and Derricks in Construction)</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>4. NYC Construction Codes Overview
 Cover all applicable code, rules, related Department policy statements, Regulatory notices, bulletins and memos, including:
 2014 Building Code, Chapter 33; Reference Standard RS 19-2</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>5. NYC Department of Buildings Overview
 Cover all applicable administrative standard operating procedures, policy procedure notices, permits/Department notifications, forms, filing and site documents, plans, inspection checklists/logs and wind and weather advisories</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>6. NYC Department of Transportation Overview
 Cover all applicable code, rules, regulations, operating procedures, policy procedures, permits/notifications, forms, filing and site documents, plans, etc., required by the NYC Department of Transportation to operate a crane.</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>7. NYC Transit Authority Overview
 Cover all applicable code, rules, regulations, operating procedures, policy procedures, permits/notifications, forms, filing and site documents, plans, etc., required by the MTA/ NYC Transit Authority to operate a crane near TA infrastructure</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>8. Basic Building Structure
 Structural framing, floor framing, roof framing, exterior envelope, roof parapet, masonry walls columns, concrete slabs, walls, and columns. Special emphasis on building structures traditionally used to support rigging equipment (floors, exterior walls, bearing & non-bearing, parapets, roof dunnage, structural steel beams and columns).</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>9. Inspection of Cranes, Ropes & Operator Responsibility
 Periodic/annual inspection performed by owner, the Department of Buildings & documentation to be maintained
 Frequent inspection, who can perform & documentation to be maintained
 How to perform a frequent inspection
 Components inspected during a frequent inspection & how to identify hazards
 Steps to take if hazard discovered Inspection process & safety checklists, including what to inspect, how to inspect, how frequently to inspect, including rigging systems & anchorage, individual components, slings, hoists mortars, etc.
 Identification of wear, defects, failure signs in all rigging equipment.
 Handling, maintenance, repair/replacement of rigging equipment, rope, hardware, etc.
 Rope (wire and fiber) and hardware used in rigging, type, strength, application, manufacturers' specifications & limitations, handling.
 Connection & termination of wire/fiber rope (fasteners, knots, hitches, hooks, shackles, thimbles, eyes, tackle blocks, etc.) including connection to suspended work platforms, (i.e., scaffold platforms); hoist loads (materials, equipment).</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>10. Maintenance and Repair of Cranes and Ropes
 Types of maintenance required
 Who can maintain cranes
 Who can repair a crane
 Safeguards to take before beginning maintenance or repairs</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>11. Crane Setup
 Ground conditions
 Deviation from plans not permitted
 Founding of crane, outrigger placement and cribbing
 Danger to underground infrastructure, excavations, foundations, etc.</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>12. Reading Plans</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>13. Operating Cranes
 Starting up the crane
 Hazards of operating in a dense urban environment
 High wind hazards
 Operating near power lines
 Prohibition against hoisting over pedestrians, traffic & adjoining buildings
 Requirements for shutting down and securing the crane
 Communication between workers & supervisors while rigging: radios; hand signals; flags; etc.</p> | <p>Classroom Lecture/Discussion with A/V</p> |
| <p>14. Reading Load Charts
 NYC-approved load charts</p> | <p>Classroom Lecture/Discussion with A/V</p> |

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<p>15. Signaling Communication between workers & supervisors while rigging: radios; hand signals; flags; etc.</p>	Hands-On Demonstration & Practice
<p>16. Lifting & Lowering Loads Weights & materials; Center of gravity; Rigging requirements; Critical Picks Logs & record keeping, including maintenance records for equipment, pre-task & safety meetings. Hoisting & hoisting equipment (manual, electric, etc.), pulley, block/tackle, sheaves, drums, slings (all types), chains, electric hoist motors, capacity, rigging of motors, mechanical/electrical safety devices and their operation, critical picks. Construction & use of suspended working platforms, manufacturer's specifications, limitations, max spans, guardrails, planking, debris netting, stirrups, maneuvering, drifting, securing of platform during & end of shift. Suspension methods, slings, c-hooks, outrigger beams, clamps, counterweights, shoring scaffolds (outrigger supports), masonry and concrete anchors (expansion, adhesive, screw), pull testing of anchorage devices. Off-the-shelf hardware, as well as site-built hardware systems must be included.</p>	Classroom Lecture/Discussion with A/V
<p>17. Operational Aids and Safety Devices Types of aids, safety devices, functions, how to use, steps to take if operational aid/safety device not working. Acceptable means to substitute for a malfunctioning aid/safety device Personal fall-arrest systems, use, storage, maintenance, installation & anchorage. Other types of personal protection (hard hats, respirators, gloves, shoes, eye protection, clothing).</p>	Classroom Lecture/Discussion with A/V
<p>18. Crane & Derrick Safety Protocols & Emergency Procedures Electrical safety during rigging installation & use, including work performed from suspended working decks (welding, use of electrical equipment, etc.). Overhead protection/safety exclusion zones during rigging, hoisting & use of scaffolding: sidewalk sheds; barriers; flag persons; hazard signage.</p>	Classroom Lecture/Discussion with A/V
<p>19. Crane Assembly, Jumping & Disassembly</p>	Classroom Lecture/Discussion with A/V
<p>20. Rigging Requirements The definition of Rigging such as the traditional uses for rigging in the construction & industrial environment, including industrial rope access (IRA). The mathematics of Rigging, measurement, symbols, geometry, calculations, leverage, friction, fulcrum, center of gravity, uniform and concentrated loading. Also the wind effects on netting & other components. Calculation of weight, loads, sling loads, drifting loads, balance & tipping points of objects, center of gravity, non-symmetrical center of gravity & buoyancy (lifting in water).</p>	Classroom Lecture/Discussion with A/V
<p>21. General Construction Site Hazards</p>	Classroom Lecture/Discussion with A/V
<p>22. NYC DOB Unsafe Condition (311) Notification Procedure</p>	Provide Copy to Trainee & Discuss
<p>23. NYC DOI/Buildings Integrity Training Contact Information Sheet</p>	Provide Copy to Trainee & Discuss
<p>24. Review all Training Topics</p>	Discussion with Questions & Answers
<p>25. Written (Multiple Choice) Assessment</p>	Classroom