



## Department-Approved Course Requirements

<b>Course Title:</b>	30-Hour Special Rigger
<b>Course Required for:</b>	<input checked="" type="checkbox"/> License Qualification
<b>Purpose:</b>	This course is a <b>Licensing</b> requirement for applicants for a Special Rigger license.
<b>Duration:</b>	30 Hours of instructional time, excluding breaks & meals
<b>Class Size:</b>	1 – 30 trainees
<b>NYC Requirement:</b>	To apply for a New York City Special Rigger license, <b>all applicants</b> must successfully complete 30 hours of training.
<b>Facility Requirements:</b>	<p>The Training Facility used by the Course Provider must:</p> <ul style="list-style-type: none"><li>• Have sufficient room to accommodate all expected attendees and the equipment needed to perform hands-on exercises where required as part of the course;</li><li>• Make provisions for the presentation of training material in all media types (computer, projector, video/DVD player, etc.); and</li><li>• Comply with all applicable laws, rules &amp; regulations relating to occupancy, zoning, egress, fire detection, fire suppression, light, ventilation, cleanliness, sanitary facilities, emergency notification &amp; evacuation procedures.</li></ul> <p>Training may be held at construction sites, provided the above requirements are met.</p>
<b>Instructor Requirement:</b>	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.
<b>Curriculum Requirement:</b>	All <b>topics</b> listed under <b>Course Content Outline</b> must be covered using the listed <b>Instructional Delivery Method</b> . 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 <b>Instructional Delivery Materials</b> used in this course must contain all current applicable NYC Construction Code references, current rules, policies & bulletins.



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## Course Content Outline

## Instruction Delivery Method

- 1. Introduction to Special Rigging**  
Include inspection, maintenance, repair, use, installation, hazards associated with the relevant sections of the building code & industry practice with regards to rigging  
Definition of Rigging such as the traditional uses for rigging in the construction & industrial environment, including industrial rope access (IRA).  
Classroom Lecture/Discussion with A/V
- 2. Rigging Accidents**  
Common causes of rigging accidents  
Historical rigging accidents in NYC & 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 & how the incident could have been prevented.  
Classroom Lecture/Discussion with A/V
- 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)  
Classroom Lecture/Discussion with A/V
- 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  
Classroom Lecture/Discussion with A/V
- 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  
Classroom Lecture/Discussion with A/V
- 6. Basic Plan Reading & Symbols**  
with emphasis on rigging & rigging equipment.  
Classroom Lecture/Discussion with A/V
- 7. Design Criteria for Rigging & Factors of Safety**  
Classroom Lecture/Discussion with A/V
- 8. Basic Building Structure**  
Structural framing, floor, wall, roof framing, exterior envelope, roof parapet, masonry walls, columns, concrete slabs. Basic strength & weight of materials used & the deteriorating effects of exposure to elements over time, especially façade elements, such as masonry, curtain wall panels, decorative stone & tile, railings, embedded anchors, etc. Special emphasis on building structures traditionally used to support rigging equipment (floors, exterior walls, bearing & non-bearing, parapets, roof dunnage, structural steel beams & columns)  
Classroom Lecture/Discussion with A/V
- 9. Rigging Math & Calculations**  
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).  
Classroom Lecture/Discussion with A/V
- 10. Inspection, Maintenance & Repair of Rigging &-Ropes**  
Inspection process & safety checklists, including: what to inspect, how to inspect, how frequently to inspect, how to identify hazards, steps to take if hazard discovered 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 & fiber), 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). Identification of wear, defects, failure signs in all rigging equipment. Handling, maintenance, repair/replacement of rigging equipment, rope, hardware, etc. Types of maintenance required; Who can maintain ropes? Who can repair ropes? Safeguards to take before beginning maintenance or repairs  
Classroom Lecture/Discussion with A/V
- 11. 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.  
Classroom Lecture/Discussion with A/V
- 12. Suspension Methods & Setup**  
slings, c-hooks, outrigger beams, clamps, counterweights, shoring scaffolds (outrigger supports), masonry & concrete anchors (expansion, adhesive, screw), pull testing of anchorage devices, off-the shelf hardware, as well as site-built hardware & systems must be included, ground conditions, deviation from plans not permitted, danger to underground infrastructure, excavations, foundations, etc.  
Classroom Lecture/Discussion with A/V



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13. Lifting & Lowering Loads Weights & materials; center of gravity; rigging requirements; critical picks, 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 & 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 & concrete anchors (expansion, adhesive, screw), pull testing of anchorage devices. Off-the-shelf hardware, as well as site-built hardware systems must be included. Communication between workers & supervisors while rigging: radios; hand signals; flags; etc. Material handling during rigging as well as the use of rigging for intended purpose (hoisting, scaffold, facade repair, etc.)	Classroom Lecture/Discussion with A/V
14. Suspended Working Platforms Construction, use, manufacturers specifications, limitations, max spans, guardrails, planking, debris netting, stirrups, maneuvering, drifting, securing of platform during & at end of shift. (manual, electric, etc.), pulley, block/tackle, sheaves, drums, slings (all types), chains, electric hoist motors, capacity, rigging of motors, mechanical/electrical safety devices & their operation, critical picks	Classroom Lecture/Discussion with A/V
15. Safety Protocols/Personal Protective Equipment/Operational Aids 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). Overhead protection & safety exclusion zones during rigging, hoisting; use of scaffolding; sidewalk sheds, barriers, flag persons, hazard signage. Electrical safety during rigging installation & use, including work performed from suspended working decks (welding, use of electrical equipment, etc.).	Classroom Lecture/Discussion with A/V
16. Hazardous/Flammable/Caustic Materials work safety, effect on and protection of rigging hardware from damaging materials. Welding/burning operations.	Classroom Lecture/Discussion with A/V
17. Emergency Procedures during Scaffold Incidents Failure, Malfunction, Power loss, etc.)	Classroom Lecture/Discussion with A/V
18. Logs & Record Keeping including maintenance records for equipment, pre-task & safety meetings	Classroom Lecture/Discussion with A/V
19. Evaluation of Training, Employment, & Qualifications of Rigging & Specialty crews.	Classroom Lecture/Discussion with A/V
20. General Construction Site Hazards	Classroom Lecture/Discussion with A/V
21. <a href="#">NYC Buildings Unsafe Condition (311) Notification Procedure</a>	Provide Copy to Trainee & Discuss
22. <a href="#">NYC/DOI Buildings Integrity Training Contact Information Sheet</a>	Provide Copy to Trainee & Discuss
23. Review all Training Topics	Discussion with Questions & Answers
24. Written (Multiple Choice) Assessment	Classroom