



## Fundamentals of Rigging Engineering

**New Program  
Announcement**  
Available January 2015

### Overview

Heavy crane, rigging, and lifting activities take place in a variety of industrial environments. Engineers come on the scene with backgrounds in mechanical, civil, structural or other branches of engineering. However, in most engineering programs, students learn little to nothing about crane and rigging activities. Most engineers who enter this field are then required to learn on-the-job.

Others who conduct lifting activities include a multitude of non-engineers who have graduated through the ranks to take on roles of lift planner, equipment superintendent, or master rigger. In general, these individuals have learned a great deal on-the-job but lack the formal education that the risky activities they are conducting call for.

This program was built to prepare key personnel with foundational knowledge in rigging engineering, exposing students to what they need to consider, and provide them with the resources to solve a challenge when it arises.

### Required Courses

Introduction to Rigging Engineering	<ul style="list-style-type: none"> <li>Basic Engineering Principles</li> <li>Basic Rigging Principles</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate Rigging Principles</li> <li>Advanced Rigging Principles</li> </ul>	24 hrs.	Online	\$1,795
Cranes & Derricks	<ul style="list-style-type: none"> <li>Introduction to Cranes &amp; Derricks</li> <li>Configurations</li> <li>Loads &amp; Forces</li> </ul>	<ul style="list-style-type: none"> <li>Stability Against Overturning</li> <li>Crane Use &amp; Planning</li> <li>Crane Applications</li> </ul>	32 hrs.	Online	\$2,195
Rigging, Equipment & Applications	<ul style="list-style-type: none"> <li>Slings &amp; Shackle Use</li> <li>Below-the-Hook Lifting Devices</li> </ul>	<ul style="list-style-type: none"> <li>Rigging Arrangements</li> <li>Lift Planning</li> </ul>	32 hrs.	Online	\$2,195
Alternative Load Handling Equipment	<ul style="list-style-type: none"> <li>Hydraulic &amp; Strand Jacks</li> <li>Telescopic Hydraulic Gantry Systems</li> </ul>	<ul style="list-style-type: none"> <li>Modular Lift Towers &amp; Other Lifting Systems</li> <li>Horizontal Load Moving Systems</li> </ul>	24 hrs.	Online	\$1,795
Lift Planning	<ul style="list-style-type: none"> <li>Introduction to Lift Planning</li> <li>Analyzing Risk</li> </ul>	<ul style="list-style-type: none"> <li>Executing Critical Lift Plans</li> <li>Analysis of Accidents</li> </ul>	16 hrs.	Online	\$995

### Elective Courses\*

Specialized Transport	<ul style="list-style-type: none"> <li>Road Transport</li> <li>Rail Transport</li> </ul>	<ul style="list-style-type: none"> <li>Water Transport</li> </ul>	32 hrs.	Online	\$2,195
Standards & Regulations	<ul style="list-style-type: none"> <li>Worldwide Standards</li> <li>Regulations</li> </ul>	<ul style="list-style-type: none"> <li>Industry-Specific Regulations</li> </ul>	12 hrs.	Online	\$995
Master Rigger	<ul style="list-style-type: none"> <li>Advanced Rigging Applications and Load Handling Activities: <ul style="list-style-type: none"> <li>- Multi-crane lifts</li> <li>- Load turning</li> <li>- Load drifting</li> <li>- Jacking/rolling/skidding with hydraulic and pneumatic systems</li> <li>- Load Control</li> <li>- Winching &amp; Blocking</li> <li>- Rigging Design</li> <li>- Inclined planes and more.</li> </ul> </li> <li>50% Hands-On Learning</li> <li>Optional – CIC Qualified Rigger-Advanced Certification</li> </ul>		32 hrs.	ITI Training Centers	\$495
Certified Rigging Gear Inspector Level I	<ul style="list-style-type: none"> <li>Removal criteria for wire rope, wire rope slings, synthetic slings, chain slings, rigging hardware, below-the-hook lifting devices</li> <li>Applicable OSHA, ASME, ASTM, AISI Regulations &amp; Standards</li> <li>Hands-On Inspections &amp; Certification Exams</li> </ul>		32 hrs.	ITI Training Centers	\$495
Mobile Crane Inspector	<ul style="list-style-type: none"> <li>Identify damage and wear on mobile crane components</li> <li>MESH components – Mechanical, Electrical, Structural, and Hydraulic</li> <li>Hands-on inspections and qualification exams</li> </ul>		40 hrs.	ITI Training Centers	\$495

\* 2 Elective courses are required to complete the Program.



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Cranes • Rigging • Lift Planning • Inspection

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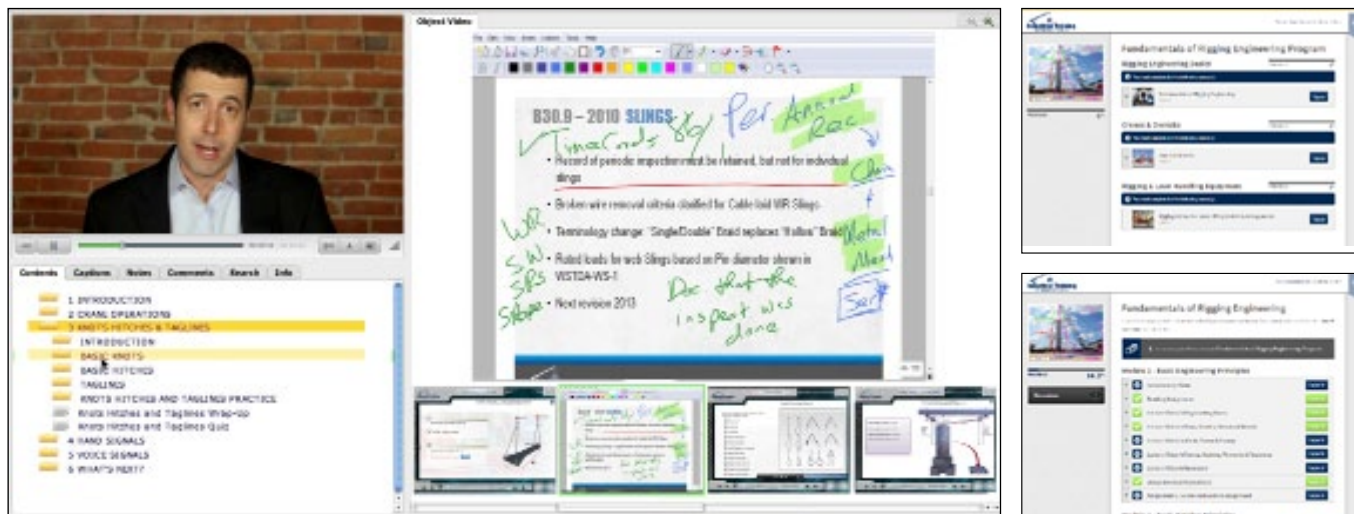
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### Instructors & Program Contributors

- J. Keith Anderson, Chief Rigging Engineer, Bechtel
- David Duerr, PE, Owner, 2DM Associates
- Ron Kohner, PE, Owner, Landmark Engineering
- Jim Lory, Rigging Engineering Manager, Fluor Corp.
- Don Mahnke, PE, Owner, Hydra-Slide
- Larry Means, PE, Owner, Means Engineering
- Skip Ohman, PE, Advisor, The Crosby Group
- Jonathan Parnell, PE, Project Manager, ITI
- Mike Parnell, President, ITI
- Larry Shapiro, PE, Partner, Shapiro & Associates
- Paul Sweeney, Manager of Lifting & Handling Equipment, General Dynamics Electric Boat
- Marco Van Daal, Owner, The Works International
- Jim Wiethorn, PE, Haag Engineering
- Jim Yates, PE, SVP of Engineering & Technical Services, Barnhart Crane & Rigging

### Program Delivery Methods

- **On-Demand E-Learning** - Students are able to complete the Program fully-online at their own speed - lectures are recorded by industry subject matter experts and the learning modules include reading, discussion questions, assignments and exams.
- **Virtual Instructor Led Training** - Students are able to enroll and learn alongside other students with live, virtual instruction.
- **ITI Training Centers** - Three elective courses are offered at ITI Training Centers throughout North America for hands-on, practical learning opportunities.



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