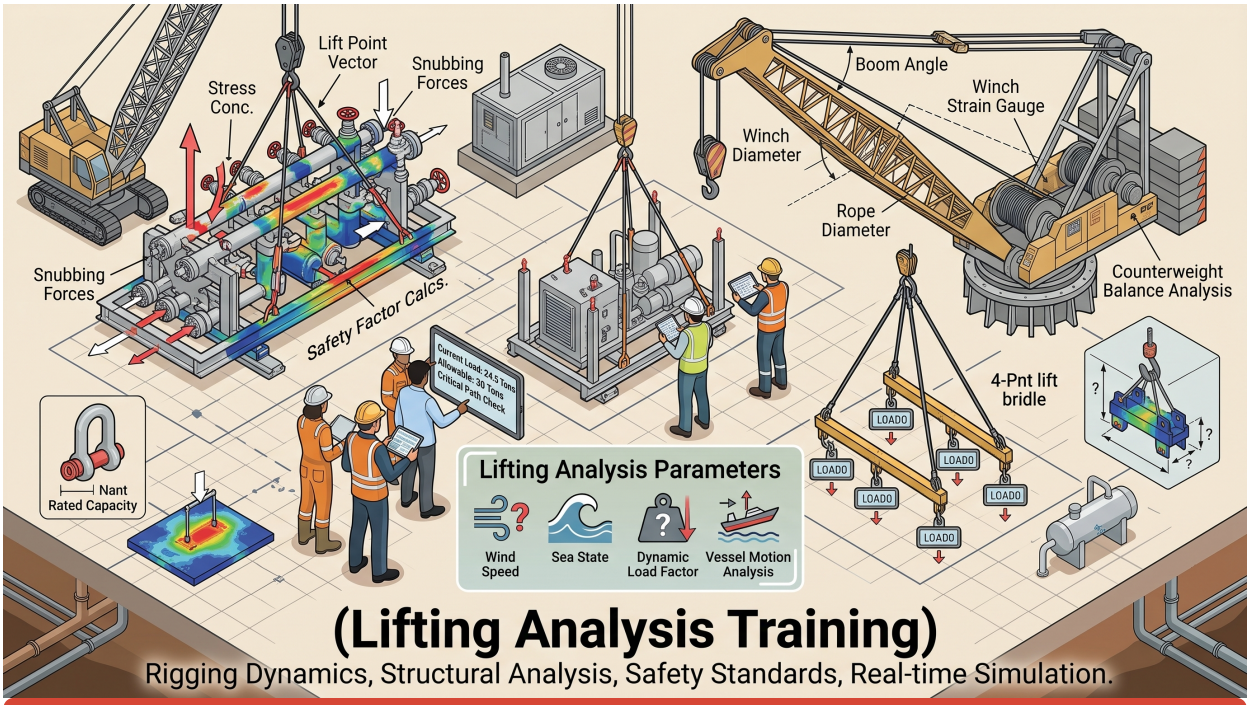


Lifting Analysis Training

Duration: 5 Days

Language: en

Course Code: IND01 - 151

Objective

Upon completion of this course, participants will be able to:

- Evaluate structural integrity, load pathways, and material stresses in complex marine and land-based heavy lift operations.
- Apply engineering formulas and advanced simulation tools—including Finite Element Analysis (FEA)—to verify rigging capacity and stability.
- Formulate rigorous execution plans for multi-stage and heavy-lift challenges while managing dynamic environmental factors.
- Implement global safety frameworks, regulatory protocols, and inspection standards (ISO, API, DNV, LOLER) across project lifecycles.
- Conduct comprehensive risk assessments, load chart calculations, and practical equipment evaluations to ensure operational reliability.

Audience

This course is intended for:

- Structural, Mechanical, and Marine Engineers
- Offshore Installation and Lifting Specialists
- Rigging Engineers and Heavy Lift Planners
- Operations Managers and HSE Supervisors
- Field Engineers working with marine structures, jack-up platforms, and heavy industrial facilities

Training Methodology

The course employs a blend of instructional methods, including:

- Expert-led interactive modules and technical presentations
- Simulation-driven calculation sessions and FEA modeling demonstrations
- Collaborative problem-solving workshops and field case evaluations
- Hands-on inspection exercises and scenario-based group activities
- Comprehensive course materials, technical reference guides, and assessment tools

Summary

This comprehensive 5-day program offers an advanced deep dive into the engineering principles, structural physics, and regulatory protocols governing modern lifting operations. Designed to bridge high-level theoretical analysis with real-world execution, the curriculum spans essential load mechanics, specialized jack-up rig configurations, multi-phase lift sequencing, and sophisticated stress modeling (FEA). Through practical exercises and rigorous case studies, delegates gain the specialized expertise needed to engineer safe, efficient, and fully compliant heavy lifting solutions across both onshore and offshore environments.

Course Content & Outline

Section 1: Foundations of Marine & Onshore Lifting Mechanics

- Core fundamentals and operational dynamics of land and marine lifting environments
- Global regulatory frameworks, safety thresholds, and duty-of-care obligations
- Classification and structural mechanics of primary lifting assets: cranes, hoists, shackles, and rigging assemblies
- Advanced sling geometry, load-sharing mechanics, and safe rigging arrangements

Section 2: Specialized Offshore & Jack-Up Platform Applications

- Architectural design criteria and structural configurations specific to jack-up rig lifts
- Dynamic load behavior, wave movement impacts, and center-of-gravity stability control
- In-depth case analyses: Evaluating operational successes and failure modes in jack-up environments
- Environmental contingency planning for dynamic marine conditions

Section 3: Structural Engineering, FEA & Risk Modeling

- Material stress analysis, yield limits, and structural load path evaluation
- Quantitative load calculation methodologies, rigging factor safety margins, and hazard identification
- Application of Finite Element Analysis (FEA) and software modeling in complex lift validation
- Proactive risk mitigation strategies and contingency engineering

Section 4: Engineering Complex Multi-Stage & Tandem Lifts

- Strategic planning and phase sequencing for intricate, multi-crane, and multi-stage operations
- Critical path communication protocols and inter-team operational alignment
- Optimizing cycle efficiency while maintaining strict safety margins during load transfers
- Contingency management for unexpected load shifts or equipment strain

Section 5: Applied Engineering Workshops, Standards & Certification

- Simulated heavy-lift exercises and real-world problem-solving scenarios
- Interactive equipment inspection protocols, integrity checks, and defect identification
- Comparative review of international engineering codes (ISO, API, DNV, ASME)
- Compliance auditing, theoretical and practical evaluations, and course summary

Certificate Description

Upon successful completion of this training course, delegates will be awarded a Holistique Training Certificate of Completion . For those who attend and complete the online training course, a Holistique Training e-Certificate wil l be provided .

Holistique Training Certificates are accredited by the B ritish Assessment Council (BAC) and The CPD Certification Service (CPD), and are cer tified under ISO 9001, ISO 21001 , and ISO 29993 standards .

CPD credits for this course are granted by our Certificates and will be reflected on the Holistique Train ing Certificate of Completion . In accordance with the standards of The CPD Certification Service, one CPD credit is awarded per hour of course attendance . A maximum of 50 CPD credits can be claimed for any single course we currently offer .

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