Advanced Heavy Lifting and Transportation Techniques for Onshore and Offshore Projects Training Course

Professional Development Training Course Outline

Category	Structural Engineering	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In the modern landscape of large-scale **engineering projects** and global **supply chains**, the safe and efficient movement of **oversized cargo** and **heavy loads** is a critical, high-stakes operation. This specialized field, often referred to as **project cargo logistics**, involves intricate planning, advanced technology, and rigorous safety protocols. Failures in **heavy lifting operations** can lead to catastrophic accidents, significant financial losses, and project delays. As industries like **oil and gas**, **renewable energy** , and **infrastructure development** continue to push the boundaries with larger, more complex components, the demand for highly skilled professionals in this domain is skyrocketing.

Advanced Heavy Lifting and Transportation Techniques for Onshore and Offshore Projects Training Course is specifically designed to address these challenges, providing participants with the comprehensive knowledge and **practical skills** required for **critical lift** and **heavy haulage** projects. Focusing on both **onshore** and **offshore environments**, the curriculum delves into the latest **equipment technology**, **risk management strategies**, and **regulatory compliance**. By equipping engineers, managers, and technical staff with **advanced techniques** and a **safety-first mindset**, we aim to enhance operational efficiency, reduce project risks, and ensure a **competitive advantage** in today's dynamic global market.

Programme Curriculum

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Course Duration

5 days

Course Objectives

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

1. Design and execute detailed **lift plans** and **transportation studies** for complex projects.
2. Identify and assess potential hazards, implementing robust **risk management** and **safety protocols**.
3. Master the selection and application of specialized equipment, including **SPMTs**, **strand jacks**, and **heavy-duty cranes**.
4. Coordinate complex **multimodal transportation** across land and sea.
5. Apply relevant **industry standards** and **regulatory requirements** (e.g., LOLER, API, DNV).
6. Conduct accurate **engineering calculations** for load distribution, ground bearing pressure, and sling tensions.
7. Navigate the unique challenges of **offshore lifting**, including subsea installations and marine conditions.
8. Utilize **3D modeling** and simulation software for **pre-visualization** and **path analysis**.
9. Foster a proactive **safety culture** through effective communication and supervision.
10. Learn from real-world **case studies** and **lessons learned** to avoid common project pitfalls.
11. Effectively supervise and manage **rigging** and lifting teams on-site.
12. Account for environmental variables like **wind load** and weather in operational planning.
13. Implement strategies to improve project efficiency and minimize **operational downtime**.

Organizational Benefits

- Drastically reducing the incidence of accidents, injuries, and equipment damage.
- Minimizing costly delays and unforeseen expenses through meticulous planning and execution.
- Equipping a skilled workforce that can perform complex tasks more efficiently.
- Avoiding legal penalties and insurance liabilities by adhering to international standards.
- Demonstrating a commitment to professionalism and safety, attracting high-value clients and top talent.
- Reducing wear and tear on valuable assets through proper usage and maintenance.
- Cultivating a professional and accountable workforce dedicated to quality and safety.

Target Audience

- Project Managers and Project Engineers
- Lifting & Rigging Supervisors
- HSE (Health, Safety, and Environment) Professionals
- Construction Managers and Site Supervisors
- Logistics & Transportation Coordinators
- Mechanical & Structural Engineers
- Naval Architects and Marine Operations Personnel
- Heavy Equipment Operators and Crane Operators

Course Outline

Module 1: Fundamentals of Heavy Lifting & Transportation

- Key Principles.
- Equipment Overview.
- Regulatory Framework.
- Rigging Basics.
- **Case Study:** Analysis of a modular plant installation to demonstrate equipment selection and basic rigging principles.

Module 2: Advanced Lift Planning and Engineering

- Lift Studies & Method Statements.
- Calculations & Analysis.
- Software & Technology
- Tandem Lifts.
- **Case Study:** The intricate lift plan for installing a large reactor vessel at a petrochemical facility.

Module 3: Onshore Heavy Haulage and SPMT Operations

- Transport Methods.
- Route Surveying.
- Load-out & Skidding.
- Safety Protocols.
- **Case Study:** The complex transport of a 69-ton kiln tire through urban and remote areas, highlighting route planning challenges.

Module 4: Offshore & Marine Lifting Techniques

- Marine Vessels.
- Offshore Cranes.
- Subsea Operations.
- Environmental Factors.
- **Case Study:** A wind turbine installation project, from land-based fabrication to offshore component lift and installation.

Module 5: Risk Management & Safety Excellence

- Hazard Identification.
- Risk Assessment Matrix.
- Emergency Response.
- Permit-to-Work.

- **Case Study:** An accident investigation and analysis to learn from a lift-related failure and prevent future incidents.

Module 6: Equipment Maintenance & Inspection

- Pre-Use Checks.
- Preventative Maintenance.
- Inspection & Certification.
- Defect Management.
- **Case Study:** A critical component failure analysis, examining how a lack of proper maintenance led to a near-miss incident.

Module 7: Advanced Rigging & Lifting Components

- Specialized Rigging.
- Hydraulic Systems
- Center of Gravity.
- Load Securement.
- **Case Study:** A multi-point lift of an unusually shaped industrial module, showcasing the use of specialized rigging to manage an uneven center of gravity.

Module 8: Project Coordination & Execution

- Interdisciplinary Collaboration.
- Operational Control.
- Contingency Planning
- Documentation & Reporting.
- **Case Study:** The coordinated delivery and installation of a pre-fabricated bridge section, involving multiple teams and equipment.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com