

COURSE OVERVIEW DE0397
Hoisting System Operations and Maintenance

Course Title

Hoisting System Operations and Maintenance

Course Date/Venue

Session 1: July 06-10, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Session 2: December 08-12, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE



Course Reference

DE0397

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

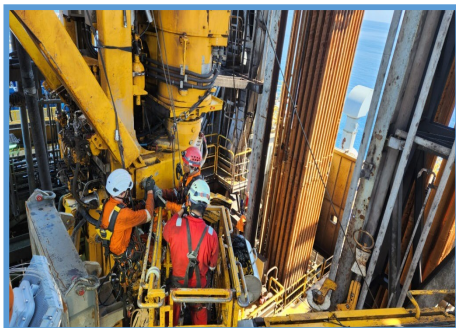
Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.



This course is designed to provide participants with a detailed and up-to-date overview of Hoisting Equipment. It covers hoisting systems, drilling rig components, types rig component and hoisting equipment terminology; the basic principles of load handling including common failure modes and how to prevent it; the common risks and hazards in hoisting; the safety signage and equipment and emergency stop procedures; and the types of derricks and mast structures, types of draw works, wire ropes and drill lines.



Further, the course will also discuss the blocks and hook systems, types of elevators, slips, winch types and applications in drilling and auxiliary tools; the pre-operation inspections, rigging and load securing, hoisting operations offshore rigs and load management systems (LMS); advanced hoisting techniques, emergency response procedures for hoisting failures and evacuation protocols in offshore emergencies; the routine maintenance procedures, lubrication, cleaning and corrosion prevention the wear and tear analysis; the inspection techniques, troubleshoot common problems; and the technology in hoisting maintenance.

During this interactive course, participants will learn complying with environmental standards; the waste management and recycling of components; and advanced hoisting technologies and carryout hazard identification and risk assessment (HIRA), incident reporting and investigation.

Course Objectives

Upon the successful completion of this module, each participant will be able to:-

- Apply and gain an in-depth knowledge on hoisting equipment
- Recognize introduction to hoisting systems, drilling rig components, types of hoisting equipment and hoisting equipment technology
- Discuss the basic principles of load handling including common failure modes and how to prevent it
- Identify common risks and hazards in hoisting and apply safety signage and equipment and emergency stop procedures
- Recognize the types of derricks and mast structures, types of draw works, wire ropes and drill lines
- Discuss blocks and hook systems, types of elevators, slips, winch types and applications in drilling and auxiliary tools
- Carryout pre-operation inspections, rigging and load securing, hoisting operations offshore rigs and load management systems (LMS)
- Employ advanced hoisting techniques, emergency response procedures for hoisting failures and evacuation protocols in offshore emergencies
- Apply routine maintenance procedures, lubrication, cleaning and corrosion prevention and wear and tear analysis
- Carryout inspection techniques, troubleshoot common problems and apply technology in hoisting maintenance
- Comply with environmental standards and apply waste management and recycling of components
- Identify advanced hoisting technologies and carryout hazard identification, and risk assessment (HIRA), incident reporting, and investigation

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.

Who Should Attend


This module provides an overview of all significant aspects and considerations of hoisting equipment for rigging and lifting personnels, equipment operators, maintenance technicians, project managers, HSE personnels, engineers, site supervisors, compliance and inspection officers and other technical staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the module who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

US\$ 8,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Mubarak Al-Tahrawi is a **Senior Petroleum & Drilling Engineer** with **40 years** of extensive experience within the **Onshore and Offshore Oil & Gas** fields. His expertise widely covers **Well Integrity Management, Well Intervention, Well Head Equipment, Leak Detection Techniques, Leak Repairing Techniques, Well Barriers, Well Performance, Wellhead Isolation & Troubleshooting, Well Intervention Procedures, Well Operations, Fishing Operations, Pipe Sticking, Washover Operations, Loose-Junk Fishing, Milling Operations, Fishing & Intervention Technique & Technology, Wireline Fishing, Sidetracking Methods, Thru-Tubing Fishing, Coiled-Tubing-Conveyed Tubing & Drill-Pipe Cutting, Cementing Integrity Evaluation, Cementing Design, Cement Integrity Assurance & Evaluation, Well Cementing, Casing & Cementing, Petroleum Economic Analysis, Oil Industry Orientation, Crude Oil Production, Crude Oil Market, Oil Reserves, Oil & Gas Exploration and Methods, Oil & Gas Extraction, Oil Production & Refining, Global Oil Supply & Demand, Global Oil Reserves, Oil Supply & Demand, Technology Usage in Industrial Security; Upstream, Midstream & Downstream Operations; Oil Reservoir Evaluation & Estimation, Oil Contracts, Government Legislation & Oil Contractual Agreements, Oil Projects & Their Feasibility (revenue and profitability), Crude Oil Types & Specifications, Oil Processing, Oil Transportation-Methods, Stuck Pipe Prevention, Wellbore, Drilling & Tripping Practices, Well Completion & Work-Over, Well Stimulation Techniques & Treatments, Oil Well Drilling Engineering, Well Control, Drilling Fluids Technology, Drilling Optimization & Well Planning, Exploration Technology, Drilling Technique & Technology, Production Logging & Reservoir Monitoring, Casing & Cementing Technology, Tubing Design, Hydraulic Fracturing, Down Hole Services, Pipe Cutters, Pipe Recovery Techniques, Packer Recovery & Milling Tools, Mud Technology and Rig Inspection.**

During Mr. Mubarak's career, he gained his thorough practical experience through several challenging positions such as the **General Manager, Vice President, Well Services Operations Manager, Senior Petroleum Engineering Consultant, Drilling & Work-Over Special Operations Engineer & Consultant, Well Value Assurance Coach, Mud Engineering Head, Drilling Operations Head, Down Hole Services & Rentals Manager, Regional Technical Support Manager, Mud Engineer, Fishing Supervisor, Drilling Supervisor** and **Company Man** from various international well-renowned companies such as the **SONATRACH, ADMA-OPCO, Weatherford, National Petroleum Company (NPC), ADCO, SHELL, ADWOC, Natural Resources Authority, Sakson Egypt Petroleum Service** and **UNICARBIDE International**. His integrity and remarkable dedication to his duties and being responsible in managing the day-to-day rig operations, HSE performance, operation and maintenance, ancillary operations, handling field technical and financial activities and many more had proven his significant contributions to the industry.

Mr. Mubarak has a **Bachelor's degree in Petroleum & Deep Drilling Technology Engineering** from the **University of Belgrade**. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and has a **Certificate of Discretionary Doctorate in Petroleum Engineering** from the **American World Open University** and a member of the **Society of Petroleum Engineering (SPE)**. He has further delivered numerous trainings, courses, workshops, seminars and conferences globally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this module. However, the module instructor(s) may modify this program before or during the module for technical reasons with no prior notice to participants. Nevertheless, the module objectives will always be met:

Day 1

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| 0730 – 0800 | <i>Registration & Coffee</i> |
| 0800 – 0815 | <i>Welcome & Introduction</i> |
| 0815 – 0830 | PRE-TEST |
| 0830 - 0930 | Introduction to Hoisting Systems <i>Definition and Purpose of Hoisting Equipment • Overview of Onshore vs. Offshore Hoisting Systems • Basic Components of a Hoisting System • Safety Standards and Regulations for Hoisting Equipment (API, ISO)</i> |
| 0930 – 0945 | <i>Break</i> |
| 0945 – 1100 | Drilling Rig Components Overview <i>Derrick and Mast Structures • Substructure and Rotary Table • Drill Lines and Wire Ropes • Hoisting System Integration into the Rig</i> |
| 1100 – 1145 | Types of Hoisting Equipment <i>Block and Tackle Systems • Traveling Blocks, Crown Blocks, and Dead Line Anchors • Winches and Drawworks • Power Swivels and Elevators</i> |
| 1145-1230 | Hoisting Equipment Terminology <i>Key Terminologies: Load Path, Safe Working Load, and Dynamic Loads • Load Ratings and Safety Factors • Torque and Load Indicators • Hoisting Speed and Efficiency Metrics</i> |
| 1230 – 1245 | <i>Break</i> |
| 1245 – 1330 | Basic Principles of Load Handling <i>Fundamentals of Load Physics (Forces, Tension, and Weight) • Center of Gravity and Load Balancing • Static vs. Dynamic Loading • Common Failure Modes and How to Prevent Them</i> |
| 1330 - 1420 | Safety in Hoisting Operations <i>Common Risks and Hazards in Hoisting • Safety Signage and Equipment • Emergency Stop Procedures • Case Studies of Hoisting Accidents and Lessons Learned</i> |
| 1420 – 1430 | Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i> |
| 1430 | <i>Lunch & End of Day One</i> |

Day 2

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| 0730 – 0830 | Derricks & Masts Types of Derricks and Mast Structures • Derrick Load Ratings and Stress Analysis • Derrick Inspection and Certification • Reinforcements for Offshore Applications |
| 0830 - 0930 | Drawworks Functionality and Operating Principles • Types of Drawworks (Electric, Hydraulic) • Brake Systems in Drawworks (Mechanical, Dynamic, Auxiliary) • Maintenance and Troubleshooting |
| 0930 – 0945 | Break |
| 0945 – 1100 | Wire Ropes & Drill Lines Wire Rope Types and Material Properties • Inspection, Lubrication, and Replacement Practices • I Spooling and Tensioning Procedures • Factors Affecting Rope Lifespan (Corrosion, Fatigue, Wear) |
| 1100 – 1230 | Blocks and Hook Systems Components: Traveling Block, Crown Block, Hooks • Block Pulley Arrangement and Efficiency • Load Distribution on Hook Systems • Routine Inspections and Replacements |
| 1230 – 1245 | Break |
| 1245 – 1330 | Elevators & Slips Types of Elevators (Side Door, Casing, Drill Pipe) • Handling of Tubulars Using Elevators • Slips: Functions, Types, and Proper Usage • Potential Failures and Safety Measures • |
| 1330 - 1420 | Winches & Auxiliary Equipment Winch Types and Applications in Drilling • Rigging Practices for Winch Operations. • Maintenance and Emergency Procedures • Overview of Auxiliary Tools: Tongs, Spiders, and Torque Wrenches. |
| 1420 – 1430 | Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow |
| 1430 | Lunch & End of Day Two |

Day 3

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| 0730 – 0830 | Pre-Operation Inspections Checklists for Daily Inspections • Identifying Wear and Damage on Components • Ensuring Compliance with Load Charts and Limits • Reporting and Rectifying Deficiencies |
| 0830 - 0930 | Rigging & Load Securing Types of Rigging Configurations (Chokers, Baskets, Straight Hitches) • Load Balancing Techniques • Use of Shackles, Slings, and Chain Assemblies • Offshore Rigging Challenges (Wind, Waves, Stability). |
| 0930 – 0945 | Break |
| 0945 – 1100 | Hoisting Operations on Offshore Rigs Unique Challenges in Offshore Hoisting (Motion Compensation) • Active Heave Compensation Systems • Dynamic Positioning and Load Management • Communication Protocols During Offshore Operations. |
| 1100 - 1230 | Load Management Systems (LMS) Role of LMS in Hoisting • Real-Time Load Monitoring and Alarms • Data Logging and Analysis for Performance Optimization • Case Studies: LMS in Critical Hoisting Scenarios. |

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| 1230 – 1245 | Break |
| 1245 – 1330 | Advanced Hoisting Techniques Tandem Lifting Operations • Heavy-Lift Applications in Drilling • Vertical and Horizontal Hoisting Considerations • Precautions for High-Tension Loads |
| 1330 - 1420 | Emergency Operations & Failures Emergency Response Procedures for Hoisting Failures • Handling Dropped Loads • Evacuation Protocols in Offshore Emergencies. • Review of Past Incidents and Preventative Measures. |
| 1420 – 1430 | Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow |
| 1430 | Lunch & End of Day Three |

Day 4

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| 0730 – 0830 | Routine Maintenance Procedures Maintenance Schedules for Key Components • Lubrication, Cleaning, and Corrosion Prevention • Wear and Tear Analysis • Documentation and Reporting Standards. |
| 0830 - 0930 | Inspection Techniques Visual Inspection Guidelines • Non-Destructive Testing (NDT) Methods. • Critical Components for Regular Inspection • Certification and Compliance Requirements |
| 0830 - 0930 | Troubleshooting Common Problems Identifying Faulty Equipment • Addressing Wire Rope Slippage • Resolving Drawworks Brake Issues • Preventing Overload Failures. |
| 0930 – 0945 | Break |
| 0945 – 1100 | Technology in Hoisting Maintenance Use of Drones for Derrick and Mast Inspections • Advanced Sensors for Real-Time Monitoring • Predictive Maintenance Using IoT Devices • Automated Reporting Systems |
| 1100 – 1230 | Environmental Considerations Offshore Corrosion Challenges • Impact of Extreme Temperatures • Compliance with Environmental Standards • Waste Management and Recycling of Components |
| 1230 – 1245 | Break |
| 1245 – 1420 | Case Studies: Maintenance Failures Review of Notable Failures Due to Neglected Maintenance • Lessons Learned and Best Practices • Group Discussion on Real-Life ADNOC Challenges. |
| 1420 – 1430 | Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow |
| 1430 | Lunch & End of Day Four |

Day 5

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| 0730 – 0830 | Advanced Hoisting Technologies Automated and Remote-Controlled Hoisting Equipment • Smart Hoisting Systems and Load Sharing • Use of Robotics in Hoisting Operations • Future Trends in Hoisting for Oil & Gas |
| 0830 – 0930 | Hazard Identification & Risk Assessment (HIRA) Identifying Hoisting Hazards in Onshore and Offshore Settings • Risk Control Measures and Mitigation • Creating and Reviewing Job Safety Analysis (JSA) • Ensuring Worker Competency and Training. |

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| 0930 – 0945 | Break |
| 0945 – 1100 | Simulation & Practical Exercises Simulated Hoisting Scenarios for Onshore and Offshore • Hands-On Practice with Hoisting Equipment • Evaluating Operator Performance • Feedback and Corrective Actions |
| 1100 – 1230 | Incident Reporting & Investigation Procedures for Reporting Hoisting Incidents • Conducting Root Cause Analysis • Corrective and Preventative Action Plans • Aligning Reports with ADNOC Standards |
| 1230 – 1245 | Break |
| 1245 – 1345 | Competency Assessment Written Test Covering Key Topics • Practical Assessment on Hoisting Operations • Group Exercises and Problem-Solving Scenarios • Feedback and Certification of Completion |
| 1345 – 1400 | Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course |
| 1400 – 1415 | POST-TEST |
| 1415 – 1430 | Presentation of Course Certificates |
| 1430 | Lunch & End of Course |

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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