

COURSE OVERVIEW DE0527
Tubulars and Pipe Handling

Course Title

Tubulars and Pipe Handling

Course Date/Venue

Session 1: April 06-10, 2025/Boardroom 1,
 Elite Byblos Hotel Al Barsha,
 Sheikh Zayed Road, Dubai, UAE
 Session 2: August 04-08, 2025/Fujairah
 Meeting Room, Grand
 Millennium Al Wahda Hotel,
 Abu Dhabi, UAE



Course Reference

DE0527

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 Tubulars and Pipe Handling. It covers the types of tubulars in the oil and gas industry; the pipe manufacturing processes and material properties of tubulars; the types of pipe handling equipment and tools, common terminologies and health, safety, and environment (HSE) considerations; the tubular design criteria, drill pipe specifications and selection; the casing and tubing design considerations and line pipe and flowline specifications; handling of tubulars during transportation; and the quality assurance and inspection and manual handling of tubulars.



During this interactive course, participants will learn the automated pipe handling systems, pipe running procedures, pipe storage and maintenance and HSE in pipe handling operations; handling large-diameter tubulars using specialized equipment, alignment and coupling techniques and safety considerations for large loads; the tubular damage and repair, dealing with stuck pipes and calculating torque and drag; the smart tubulars with embedded sensors, advances in automated handling systems and wear-resistant materials and coatings; and the tubular inspection methods, pipe handling system maintenance, field testing of tubulars and incident reporting and analysis.

Course Objectives

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

- Apply and gain an in-depth knowledge on tubulars and pipe handling
- Identify the types of tubulars in the oil and gas industry including pipe manufacturing processes and material properties of tubulars
- Recognize types of pipe handling equipment and tools, common terminologies in tubular and pipe handling and health, safety, and environment (HSE) considerations in pipe handling
- Describe tubular design criteria and apply drill pipe specifications and selection
- Discuss casing and tubing design considerations as well as line pipe and flowline specifications
- Apply proper handling of tubulars during transportation, quality assurance and inspection and manual handling of tubulars
- Recognize automated pipe handling systems and carryout pipe running procedures, pipe storage and maintenance and HSE in pipe handling operations
- Handle large-diameter tubulars using specialized equipment for large-diameter pipes, alignment and coupling techniques and safety considerations for large loads
- Carryout tubular damage and repair, deal with stuck pipes and calculate torque and drag during pipe handling
- Recognize smart tubulars with embedded sensors, advances in automated handling systems and wear-resistant materials and coatings
- Apply tubular inspection methods, pipe handling system maintenance, field testing of tubulars and incident reporting and analysis

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 course provides an overview of all significant aspects and considerations of tubulars and pipe handling for drilling engineers and supervisors, rig crew members, well intervention and completion specialists, pipe inspectors and quality assurance personnel, logistics and supply chain personnel, health, safety, and environment (HSE) professionals, maintenance technicians and other technical staff.

Course Certificate(s)

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


Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- 

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.

- 

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.

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:



Ms. Diana Helmy, PgDip, MSc, BSc, is a **Senior Petroleum & Geologist** with extensive years of experience within the **Oil & Gas, Refinery** and **Petrochemical** industries. Her expertise widely covers in the areas of **Tubular & Pipe Handling, Tubular Strength, Casing & Tubing Design, Production/Injection Loads** for Casing Strings & Tubing, **Drilling Loads, Drilling & Production Thermal Loads, Well Architecture, Wellhead Integrity, Well Integrity & Artificial Lift, Well Integrity Management, Well Completion & Workover, Applied Drilling**

Practices, Horizontal Drilling, Petroleum Production, Resource & Reserve Evaluation, Reserves Estimation & Uncertainty, Methods for Aggregation of Reserves & Resources, Horizontal & Multilateral Wells, Well Completion & Stimulation, Artificial Lift System Selection & Design, Well Testing & Oil Well Performance, Well Test Design Analysis, Well Test Operations, Well Testing & Perforation, Directional Drilling, Formation Damage Evaluation & Preventive, Formation Damage Remediation, Drilling & Formation Damage, Simulation Program for The International Petroleum Business, Well Testing & Analysis, Horizontal & Multilateral Wells & Reservoir Concerns, Oil & Gas Analytics, Petrophysics & Reservoir Engineering, Subsurface Geology & Logging Interpretation, Petroleum Geology, Geophysics, Seismic Processing & Exploration, Seismic Interpretation, Sedimentology, Stratigraphy & Biostratigraphy, Petroleum Economy, Core Analysis, Well Logging Interpretation, Core Lab Analysis & SCAL, Sedimentary Rocks, Rock Types, Core & Ditch Cuttings Analysis, Clastic, Carbonate & Basement Rocks, Stratigraphic Sequences, Petrographically Analysis, Thin Section Analysis, Scanning Electron Microscope (SEM), X-ray Diffraction (XRD), Cross-Section Tomography (CT), Conventional & Unconventional Analysis, Porosity & Permeability, Geological & Geophysical Model, Sedimentary Facies, Formation Damage Studies & Analysis, Rig Awareness, 2D&3D Seismic Data Processing, Static & Dynamic Correction, Noise Attenuation & Multiple Elimination Techniques, Velocity Analysis & Modeling and various software such as Petrel, OMEGA, LINUX, Kingdom and Vista. She is currently a **Senior Consultant wherein she is responsible in different facets of **Petroleum & Process Engineering** from managing **asset integrity, well integrity process, pre-commissioning/commissioning** and **start up** onshore & offshore process facilities.**

During her career life, Ms. Diana worked as a **Reservoir Geologist, Seismic Engineer, Geology Instructor, Geoscience Instructor & Consultant** and **Petroleum Geology Researcher** from various international companies like the **Schlumberger, Corex Services for Petroleum Services, Petrolia Energy Supplies** and **Alexandria University**.

Ms. Diana has a **Postgraduate Diploma** in **Geophysics**, **Master's** degree in **Petroleum Geology** and **Geophysics** and a **Bachelor's** degree in **Geology**. Further, she is a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management (ILM)** and has delivered numerous trainings, courses, workshops, seminars and conferences internationally.

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.

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 Program

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

Day 1

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Overview of Tubulars in the Oil & Gas Industry Types of Tubulars (Drill Pipe, Casing, Tubing, Line Pipe) • Applications in Drilling and Production • Industry Standards (API Specifications, ISO Standards) • Importance of Tubular Integrity in Operations
0930 – 0945	Break
0945 – 1030	Pipe Manufacturing Processes Seamless versus Welded Pipes • Heat Treatment and Alloying Processes • Dimensional Tolerances and Quality Control • Coatings and Corrosion Resistance
1030 – 1130	Material Properties of Tubulars Mechanical Properties (Tensile Strength, Yield Strength, Toughness) • Metallurgical Considerations (Carbon Steel, Alloy Steel) • Elasticity and Plasticity • Testing Methods (UT, MPI, Hardness Testing)
1130 – 1215	Basics of Pipe Handling Equipment Types of Pipe-Handling Tools (Elevators, Slips, Tongs) • Manual versus Mechanized Systems • Safety Considerations during Handling • Compatibility with Tubular Sizes

1215 – 1230	<i>Break</i>
1230 – 1330	Common Terminologies in Tubular & Pipe Handling <i>OD, ID, Wall Thickness • Tool Joint, Upset Ends • Drift Diameter, Coupling • Yield Point, Collapse Pressure</i>
1330 – 1420	Health, Safety & Environment (HSE) <i>HSE Considerations in Pipe Handling • Risk Assessment and Mitigation • Personal Protective Equipment (PPE) • Emergency Response Protocols</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

0730 – 0830	Tubular Design Criteria <i>Burst and Collapse Pressure Calculations • Tension and Compression Loads • Fatigue Analysis in Cyclic Loading • Axial Load Capacity</i>
0830 – 0930	Drill Pipe Specifications & Selection <i>API Grades and Classifications • Tool Joint Connections and Types (NC, XT, etc.) • Range Lengths and Weight per Foot • Internal and External Coating Options</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Casing & Tubing Design Considerations <i>Setting Depths and Casing Strings • Couplings and Premium Connections • Cementing Considerations for Casing • Liner Hangers and Expandable Casing</i>
1100 – 1215	Line Pipe & Flowline Specifications <i>Material Grades for Line Pipe • Applications in Production and Transport • Pressure Rating and Diameter Selection • Erosion and Corrosion Management</i>
1215 – 1230	<i>Break</i>
1230 – 1330	Handling of Tubulars During Transportation <i>Stacking and Securing Pipes for Transport • Inspection Prior to Transport • Transportation Standards and Certifications • Reducing Handling Damage During Transit</i>
1330 – 1420	Quality Assurance & Inspection <i>Visual Inspection and Dimensional Checks • Hydrostatic Testing Procedures • Non-Destructive Testing (NDT) Techniques • Documentation and Traceability</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 Two</i>

Day 3

0730 – 0830	Manual Handling of Tubulars <i>Proper Lifting Techniques • Safe Manual Handling Practices • Risk Assessment for Manual Operations • Avoiding Common Injuries</i>
0830 – 0930	Automated Pipe Handling Systems <i>Hydraulic and Pneumatic Systems • Pipe Racking Machines and Robotic Arms • Automated Catwalks and Elevators • Maintenance and Troubleshooting</i>
0930 – 0945	<i>Break</i>



0945 – 1100	Pipe Running Procedures <i>Rig Floor Operations • Use of Slips, Elevators, and Tongs • Torque and Makeup Requirements • Common Challenges During Pipe Running</i>
1100 – 1215	Pipe Storage & Maintenance <i>Proper Storage Techniques to Avoid Warping • Use of Pipe Racks and Dunnage • Periodic Inspections for Corrosion • Maintaining Coating and Protection</i>
1215 – 1230	Break
1230 – 1330	HSE in Pipe Handling Operations <i>Hazard Identification During Pipe Handling • Toolbox Talks and Safety Briefings • Equipment Safety Checks and Certifications • Emergency Stop Procedures</i>
1330 – 1420	Training & Competency for Operators <i>Operator Certification Programs • Hands-On Training Requirements • Importance of Experience and Supervision • Continuous Skill Development</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	Lunch & End of Day Three

Day 4

0730 – 0830	Handling Large-Diameter Tubulars <i>Challenges with Large-Diameter and Heavy Tubulars • Specialized Equipment for Large-Diameter Pipes • Alignment and Coupling Techniques • Safety Considerations for Large Loads</i>
0830 – 0930	Tubular Damage & Repair <i>Common Damage Types (Dents, Cracks, Corrosion) • Field Repair Techniques • Welding Considerations and Heat Treatment • When to Retire Damaged Tubulars</i>
0930 – 0945	Break
0945 – 1100	Dealing with Stuck Pipes <i>Causes of Stuck Pipe Incidents • Preventive Measures • Fishing Tools and Techniques • Case Studies of Stuck Pipe Recovery</i>
1100 – 1215	Torque & Drag Considerations <i>Calculating Torque and Drag During Pipe Handling • Effect of Wellbore Geometry on Tubular Forces • Lubrication and Fluid Use to Reduce Drag • Software Tools for Torque and Drag Analysis</i>
1215 – 1230	Break
1230 – 1330	Innovations in Tubular & Pipe Handling <i>Smart Tubulars with Embedded Sensors • Advances in Automated Handling Systems • Wear-Resistant Materials and Coatings • Digital Twins and Predictive Maintenance</i>
1330 – 1420	Case Studies in Tubular Operations <i>Real-World Examples of Handling Failures • Lessons Learned from Incidents • Best Practices for Future Operations • Group Discussion and Analysis</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	Lunch & End of Day Four



Day 5

0730 – 0930	Tubular Inspection Methods Ultrasonic Testing (UT) • Magnetic Particle Inspection (MPI) • Eddy Current Testing (ECT) • Visual and Dimensional Checks
0930 – 0945	Break
0945 – 1100	Pipe Handling System Maintenance Preventive versus Corrective Maintenance • Lubrication and Replacement Schedules • Wear and Tear Assessment of Tools • Documentation and Tracking Systems
1100 – 1215	Field Testing of Tubulars Field Hydrostatic Testing • Pressure Testing Procedures • Pipe Collapse and Burst Testing • Data Recording and Analysis
1215 – 1230	Break
1230 – 1345	Incident Reporting & Analysis Root Cause Analysis for Pipe Failures • Importance of Incident Reporting • Creating Actionable Solutions • Sharing Findings for Industry Improvement
1330 – 1345	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about 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

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org