COURSE OVERVIEW DE0831
Drilling and Workover Operations

Course Title
Drilling and Workover Operations

Course Reference
DE0831

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	January 28-February 01, 2024	Oryx Meeting Room, Doubletree By Hilton Doha-Al Sadd, Doha, Qatar
2	February 18-22, 2024	The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE
3	March 03-07, 2024	Kizkulesi, Crown Plaza Istanbul Asia Hotels & Convention Center, Istanbul, Turkey

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.

The profitability of a well as an investment venture depends on how long it is on stream and how much it produces. Its lifetime and output are naturally due to the reservoir's initial characteristics. However, they are also dependent on keeping the well maintained in good working order and adapting completion properly to the constantly varying conditions prevailing in the reservoir and around the wellbore. The operations that may have to be carried out on a well are numerous and can be broken down into measurements, maintenance and workover.

Working on a well to reclaim or increase oil and gas production is a formidable segment of today's petroleum industry. This was not always the case, however, and many factors have changed the position of the workover industry from a minor to a major role. Foremost of these factors is that petroleum demand continues to grow, while reserves continue to decline. This difference has to be made up with existing wells, which means reworking off-production wells.

This course is designed to provide participants with up-to-date overview of the drilling and workover operations. The course covers the main factors influencing well construction, mud technology, casing design, directional drilling, completion design, the overall approach to a well's flow capacity, the major types of completion configurations, the main phases in completion, treating the pay zone, the special case of horizontal wells, the general configuration of flowing well equipment, the production wellhead, the production string or tubing, packers, downhole equipment, subsurface safety valves, servicing & workover operations, servicing & workover special cases and well stimulation.

During this interactive course, participants will learn the origin of pore pressure; the drilling problems associated with abnormal pressure; the optimization of bit hydraulics, casing design process, single and multiple stage cementing; the trajectory for a directional wells; the directional drilling tools and BHA, directional surveying tools and the main factors influencing completion design; the overall approach to a well's flow capacity; the major types of completion configurations and the main phases in completion; the cement job, perforating and treating the pay zone; the general configuration of flowing well equipment, the production wellhead, the production string or tubing and packers; the down hole equipment, subsurface safety valves and running procedure; the run procedures, artificial lift process and down hole equipment for smart completion; the main types off well servicing and workover; the servicing & workover special cases; and the carbonate acidizing, sandstone acidizing, scales and paraffin removal and squeeze cementing.

Course Objectives

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

- Apply and gain an advanced knowledge in drilling, completion and workovers technology
- Discuss the origin of pore pressure as well as identify drilling problems associated with abnormal pressure, predict and confirm formation fracture pressures, select drilling fluid
- Recognize optimization of bit hydraulics, casing design process, single and multiple stage cementing
- Design the trajectory for a directional well as well as identify directional drilling tools and BHA, directional surveying tools and the main factors influencing completion design
- Explain the overall approach to a well's flow capacity, the major types of completion configurations and the main phases in completion
- Evaluate and restore the cement job as well as demonstrate perforating and treating the pay zone
- Recognize the general configuration of flowing well equipment, the production wellhead, the production string or tubing and packers
- Identify down hole equipment, subsurface safety valves and running procedure
- Perform run procedures, choose an artificial lift process and distinguish down hole equipment for smart completion, main types off well servicing and workover, servicing & workover special cases including well stimulate on methods
- Demonstrate carbonate acidizing, sandstone acidizing, scales and paraffin removal and squeeze cementing

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 is primarily designed for well engineers, drilling supervisors, reservoir engineers, geologists, production and completion engineers needing a practical understanding and an appreciation of well construction, well completion design and operation, well stimulation and intervention.

Accommodation

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

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 Fee

Doha	**US$ 8,500** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**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.
Istanbul	**US$ 8,500** per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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:-

- 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 **30 CEUs** (Continuing Education Units) or **3.0 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.

- 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.

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:

Dr. Abla Rhouma, PhD, MSc, BSc, is a **Senior Drilling & Petroleum Engineer** with extensive years of experience within the **Oil & Gas**, **Refinery** and **Petroleum** industries. Her expertise lies extensively in the areas of **Oil Industry Orientation**, **Crude Oil** Recovery, **Heavy Oil** Processing, **Oil & Gas Reserves** Evaluation, **Crude Oil Artificial Lift** Operations, **Fishing** Operations, **Pipe Sticking**, **Washover** Operations, **Milling** Operations, **Wireline Fishing**, **Fishing in Cavities**, **Sidetracking** Methods, **Thru-Tubing Fishing**, **Coiled-Tubing-Conveyed Tubing & Drill-Pipe Cutting**, **Drilling** Operation, **Completion & Workover** Operations, **Casing Cementing** Operations, **Wireline & LWD Sensors**, **Mud Logging** Services, **Drilling Rig**, **Bits & BHA**, **Mud Pumps**, **Cementing Operations**, **Cementing & Casing**, **Coiled Tubing** Operations, **Coiled Tubing** Technology, **Coiled Tubing** Design, **Petroleum** Engineering, **Drilling** Operations, **Horizontal & Directional Drilling**, **Drilling Optimization & Well** Planning, **Drill Bit & Drilling Hydraulics**, **Drilling & Production** Equipment, **Extended Reach Drilling**, **Rock Mechanics**, **Rock Physics**, **Seismic Sequence Stratigraphy**, Applied **Reservoir** Engineering & Management, **Naturally Fractured Reservoirs**, Practical **Reservoir Engineering**, **Steam Flood Reservoir** Management, **3D Reservoir Modelling**, **Reservoir** Surveillance & Management, Integrated **Reservoir** Characterization, **Naturally Fractured Reservoir** Engineering, **Drilling Fluids** Technology, Surface BOP Stack, **Hydraulic Fracturing**, **Decline Curve** Analysis, **Rig** System, **Reservoir** Simulation, **Drilling & Hydraulic Fracture**, Technical Writing in **Drilling Fluid**, **Reservoir Fluids**, **Oil Analysis**, Formation Evaluation (**PVT**), Bottom Hole, **Wellbore Friction & Surface** Pressures, Step Rate Tests/Dfit Analysis, Friction Pressures, Tortuosity versus Perforations, Estimated Leak-Off & Pre-Treatment Frac Gradients, Water Analysis, Benchtop Pilot Testing, Linear & Hybrid Borate & Zirconate Gel Systems, Real-Time **Fluid Analysis** & Management, **Drilling Fluid**, **Reservoir Fluid & Well** Testing, Gas Measurement & Formation Evaluation (PVT), **Petroleum Design** Processing, **Workover & Completion**, Advanced **Drilling** Technology, **Well Head** Equipment, Oilfield Operation, **Hydraulic Fracture** and **Drilling & Completion** Engineering. She has also experience with some of the software's like the Eclipse, Fracpro, Ansys Fluent, Cemstress, Paso, Gohfer, Cemcat, Sas, CMG and modeling Proppant Transport using Ansys Fluent Software. She is currently the **Procurement Department Director** of **ALPHA Engineering Int'l**., wherein she is involved in developing and executing a long-term strategy to facilitate improvements for procurement services.

During Dr. Abla's career life, she has gained his practical and field experience through his various significant positions as the **Operations Manager**, **Business Development Manager**, **Client Relation Manager**, **Senior Petroleum Engineer**, **Lead Cement Engineer**, **Drilling & Hydraulic Fracture Engineer**, **Hydraulic Fracturing Field Engineer II**, **Frac Engineer**, **Drilling Engineer**, **Cementing Technical Engineer**, **Cementing Field Engineer**, **QA Supervisor**, **Supervisor**, **Chemistry Lab Technician**, **Head** of **Teacher Assistance & Research Assistance** and Intern for numerous international companies such as the **Schlumberger**, **ConocoPhillips**, **Energen**, Quality Repair & Modeling LLC, Liberty Oilfield Services, Sahara Chemical Solutions, **Colorado School** of **Mines**, Start Scientific Inc., MSI Oil Service and **Total Oil & Gas**.

Dr. Abla has **PhD**, **Master** and **Bachelor** degrees in **Petroleum Engineering** from the **Colorado School** of **Mines** and the **Missouri University** of **Science & Technology**, **USA** respectively. Further, she is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), and a member of the Society of Petroleum Engineers (**SPE**) International and American Association of Drilling Engineers (**AADE**). She has further published scientific papers and delivered numerous trainings, workshops and conferences worldwide.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course 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	***Origin of Pore Pressures***
0930 – 0945	*Break*
0945 – 1040	***Drilling Problems Associated with Abnormal Pressures***
1040 – 1130	***Prediction & Confirmation of Formation Fracture Pressures***
1130 – 1230	***Drilling Fluid Selection***
1230 – 1245	*Break*
1245 – 1345	***Optimization of Bit Hydraulics***
1345 – 1420	***Casing Design Process***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Single & Multiple Stage Cementing***
0830 – 0930	***Designing the Trajectory for a Directional Well***
0930 – 0945	*Break*
0945 – 1030	***Directional Drilling Tools & BHA***
1030– 1130	***Directional Surveying Tools***
1130 – 1230	***Main Factors Influencing Completion Design***
1230 – 1245	*Break*
1245 – 1330	***Overall Approach to a Well's Flow Capacity***
1330 – 1420	***Major Types of Completion Configurations***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Main Phases in Completion***
0830 - 0930	***Evaluating & Restoring the Cement Job***
0930 – 0945	*Break*
0945 – 1045	***Perforating***
1045– 1145	***Treating the Pay Zone***
1145 – 1230	***General Configuration of Flowing Well Equipment***
1230 – 1245	*Break*
1245 – 1330	***The Production Wellhead***
1330 – 1420	***The Production String or Tubing***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Packers***
0830 – 0930	***Down Hole Equipment***
0930 – 0945	*Break*
0945 – 1045	***Subsurface Safety Valves***
1045– 1115	***Running Procedure***
1115 – 1230	***Choosing an Artificial Lift Process***
1230 – 1245	*Break*
1245 – 1330	***Down-hole Equipment for Smart Completion***
1330 – 1420	***Main Types of Well Servicing & Workover***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Servicing & Workover Special Cases***
0830 - 0930	***Well Stimulation Methods***
0930 – 0945	*Break*
0945 – 1045	***Carbonate Acidizing***
1045 – 1145	***Sandstone Acidizing***
1145 – 1230	***Scales & Paraffin Removal***
1230 – 1245	*Break*
1245– 1345	***Squeeze Cementing***
1345 – 1400	***Course Conclusion***
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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