COURSE OVERVIEW DE0029
Advanced Drilling Technology, Techniques & Optimization

Course Title
Advanced Drilling Technology, Techniques & Optimization

Course Date/Venue
Session 1: June 29-July 03, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: November 09-13, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Course Reference
DE0029

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 advanced drilling technologies, techniques and optimization. It covers the problems associated with a dog leg and key seats; the new methods to improve drilling performance; how to control hole angle and the factors to consider designing packed hole assembly and stabilizing tools; controlling directional drilling and directional profile; and planning and supervising the directional well.

During this interactive course, participants will learn the subsurface serving including survey calculation and accuracy; the deflection tools and orientation and principles of directional drilling stabilization; the dog log severities and horizontal drilling; planning directional and horizontal well; the extended well reach and multi laterals, drill steam design and the factors determine optimal profile; applying better hole cleaning and enhancing hole for shake stability; and the proper calculation needed to optimize drilling such as torque and drag, cementing and well control calculations.

Course Objectives

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

- Apply and gain an advanced knowledge on drilling technology, techniques and optimization
- Identify the problems associated with a dog leg and key seats as well as new methods to improve drilling performance
- Control hole angle and recognize the factors to consider designing packed hole assembly and stabilizing tools
- Control directional drilling and discuss directional profile
- Plan and supervise directional well, and determine subsurface serving including survey calculation and accuracy
- Identify deflection tools and discuss the principles of directional, drilling stabilization and dog log severities
- Explain horizontal drilling and plan directional and horizontal well
- Discuss extended well reach and multi laterals, drill steam design and the factors determine optimal profile
- Apply better hole cleaning, enhance hole for shake stability and apply proper calculation needed to optimize drilling such as torque and drag, cementing and well control calculations

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 advanced drilling technology, techniques and optimization for drilling engineers, drilling engineering supervisors, drilling operations section leaders, tool pushers, managers, well engineers and technical support personnel.

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 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 **2.4 CEUs** (Continuing Education Units) or **24 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. Chris Kapetan (**Christos Kapetanios**), PhD, MSc, BSc, is a **Senior Drilling & Process Engineer** with over **40 years** of international experience within the **onshore** and **offshore oil and gas** industry. His wide experience covers **Asset Operational Integrity** for Operations, **Process Plant** Operations, Control & Troubleshooting, **Plant Shutdown** System & **Flare** Systems, **Heat Exchangers & Fired Heaters** Operation & Troubleshooting, **Gas Conditioning**, Treatment & Processing Technology, **Production Operations** in the Oil & Gas Fields & **Surface Facilities**, **LNG Process**, **Applied Process** Engineering Elements, **Production Control** Systems, Well Commissioning & Crude Oil Specifications, **Hydrogenation** & **Gasification** Technology, **Physical** & **Chemical** Solvents, Sulfide Stress Cracking (**SSC**), Hydrogen Induced Cracking (**HIC**), **Corrosion**, Steels & Alloys, **Fertilizer Manufacturing** Process Technology, **Fertilizer Storage** Management (Ammonia & Urea), **Process Calculation Methods**, **Directional Planning**, **Completion Design**, **Directional Surveying**, **Drilling Fluids**, **Matrix Acidizing**, **Hydraulic Fracturing**, **Well Completion** Design & Operation, **Cased Hole Formation Evaluation**, **Cased Hole Logs**, **Production** Management, **Drilling Operations**, **Directional Drilling**, **Gas Lift** Operations, **Petroleum Business**, **Petroleum Economics**, **Gas Lift Valve** Changing & Installation, **Horizontal & Multilateral Wells**, **Well Stimulation** & **Control** and **Workover Planning**, **Completions** & **Workover**, **Rig** Sizing, **Hole Cleaning** & **Logging**, **Well Completion**, **Servicing** & **Work-Over** Operations, Practical **Reservoir** Engineering, **X-mas Tree & Wellhead** Operations, Maintenance & Testing, **Advanced Petrophysics/Interpretation** of **Well Composite**, **Construction Integrity** & **Completion**, **Coiled Tubing Technology**, **Corrosion Control**, **Wireline & Coil Tubing**, **Pipeline Pigging**, **Corrosion Monitoring**, **Cathodic** Protection, Root Cause Analysis (**RCA**), Root Cause Failure Analysis (**RCFA**), **Production Safety** and **Delusion of Asphalt**. Currently, he is the **Operations Manager** at **GEOTECH** and an independent **Drilling Operations Consultant** of various engineering services providers to the international clients as he offers his expertise in many areas of the **drilling discipline** and is well **recognized & respected** for his process and procedural expertise as well as ongoing participation, interest and experience in continuing to promote technology to producers around the world. Currently, he is the **Operations Consultant & the Technical Advisor** at **GEOTECH** and an independent **Drilling Operations Consultant** of various engineering services providers to the international clients as he offers his expertise in many areas of the **drilling & petroleum** discipline and is well **recognized & respected** for his process and procedural expertise as well as ongoing participation, interest and experience continuing to promote technology to producers around the world.

Throughout his long career life, Dr. Chris has worked for many international companies and has spent several years **managing** technically **complex wellbore interventions** in both **drilling** & **servicing**. He is a **well-regarded** for his **process** and **procedural expertise**. Further, he was the **Operations Manager** at **ETP Crude Oil Pipeline Services** where he was fully responsible for optimum operations of crude oil pipeline, **workover** and **directional drilling**, **drilling rigs** and equipment, drilling of various geothermal deep wells and **exploration wells**. Dr. Chris was the **Drilling** & **Workover Manager** & **Superintendent** for **Kavala Oil** wherein he was responsible for supervision of **drilling** operations and **offshore exploration**, quality control of performance of **rigs**, **coiled tubing**, **crude oil** transportation via pipeline and abandonment of **well** as per the API requirements. He had occupied various key positions as the **Drilling Operations Consultant**, **Site Manager**, **Branch Manager**, **Senior Drilling** & **Workover Manager** & **Engineer**, **Drilling** & **Workover Engineer**, **Process Engineer**, **Operations Consultant** and **Technical Advisor** in several petroleum companies responsible mainly on an **offshore** sour oil field (under water flood and gas lift) and a gas field. Further, Dr. Chris has been a **Professor** of the **Oil Technology College**.

Dr. Chris has **PhD** in **Reservoir Engineering** and a **Master's** degree in **Drilling & Production Engineering** from the **Petrol-Gaze Din Ploiesti University**. Further, he is a **Certified Surfaced BOP Stack Supervisor** of **IWCF**, a **Certified Instructor/Trainer**, a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**) and has conducted numerous short courses, seminars and workshops and has published several technical books on **Production Logging**, **Safety Drilling Rigs** and **Oil Reservoir**.

Course Fee

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.

Accommodation

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

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	***Introduction to Advanced Drilling Technology & Application for Drilling***
0930 – 0945	*Break*
0945 – 1030	***Problems Associated with a Dog Leg & Key Seats***
1030 – 1130	***New Methods to Improve Drilling Performance***
1215 – 1230	*Break*
1230 – 1330	***How Do We Control Hole Angle***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Factors to Consider Designing Packed Hole Assembly***
0830 – 0845	*Break*
0845 – 1030	***Packed Hole Assemblies***
1030 – 1200	***Stabilizing Tools***
1200 – 1215	*Break*
1215 – 1330	***Conclusion***
1330 – 1420	***Introduction to Control Directional Drilling***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Directional to Profile***
0830 – 0845	*Break*
0845 – 1030	***Planning & Supervising the Directional Well***
1030 – 1200	***Subsurface Serving, Including Survey Calculation & Accuracy***
1200 – 1215	*Break*
1215 – 1330	***Deflection Tools***
1330 – 1420	***Orientation, Deflection Tools***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Principles of Directional, Drilling Stabilization***
0830 – 0930	***Dog Log Severities***
0930 – 0945	*Break*
0945 – 1100	***Introduction to Horizontal Drilling***
1100 – 1215	***Planning Directional & Horizontal Well***
1215 – 1230	*Break*
1230 – 1330	***Extended Well Reach & Multi Laterals***
1330 – 1420	***Introduction to Drills Steam Design***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Proper Drill Steam Design***
0830 – 0930	***Factors Determine Optimal Profile***
0930 – 0945	*Break*
0945 – 1100	***Better Hole Cleaning***
1100 – 1230	***Enhancing Hole for Shake Stability***
1230 – 1245	*Break*
1245 – 1345	***Calculation Needed to Know to Optimize Drilling such as Torque & Drag, Cementing & Well Control Calculations***
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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