

**COURSE OVERVIEW DE0852**  
**Advanced Drilling Practices**

**Course Title**

Advanced Drilling Practices

**Course Date/Venue**

Session 1: June 15-19, 2025/ Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Session 2: October 26-30, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar



**Course Reference**

DE0852



**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 for engineers and field personnel involved in the planning and implementation of drilling programs. The course covers all aspects of drilling technology, emphasizing both theory and practical application. Today's drilling personnel must have a working knowledge of all these disciplines in order to effectively drill a well.



The course provides all the fundamentals necessary to drill a well whether it is a shallow well or a complex, high pressure well. Computer programs are used to design many aspects of the modern well and the course will provide the participants with the theory behind most programs along with practical implementation. Course will also include advanced Mud Logging principles and operations.



Further, the course will also discuss the drilling process, drilling sequence, BHA design and PDC bit design; the rheology models, filtration control, open hole logging and cased hole logging; the components of BHA design; the stuck pipe, fishing operations and tools; the side track operations including whip stock technique and safety alerts; and the sticking mechanisms and drilling practices.

### **Course Objectives**

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

- Apply and gain an advanced knowledge on drilling practices
- Specialized knowledge and understanding in standard HSE procedures at the rig site
- Specialization in cost control, evaluating alternative drilling methods
- Demonstrate specialized knowledge and understanding of Hydraulics
- Constituents of Drilling fluids and its function, pressure losses in the circulating system and ECD
- Specialized knowledge in bit selection and dull bit grading
- Specialized knowledge and understanding in casing and drill string design, selection of casing seats, BOP equipment
- Demonstrate knowledge and understanding in cement slurry design
- Specialized knowledge in directional and horizontal drilling
- Project cost analysis
- Demonstrate specialized knowledge and understanding of wellbore pressure and different well controls for different scenarios
- Ability to coach others
- Drill a well cost effectively and maximize penetration rate
- Evaluate stuck pipe problems and avoid potential problems by optimizing hole cleaning and ROP
- Design, drill string and BOP/wellheads
- Design and implement bit and hydraulics programs
- Recognize and evaluate well control problems by effectively using Mud Logging principles and techniques
- Illustrate drilling process, drilling sequence, BHA design and PDC bit design
- Describe rheology models and apply filtration control, open hole logging and cased hole logging
- Identify the components of BHA design as well as stuck pipe, fishing operations and tools
- Carryout side track operations including whip stock technique and safety alerts
- Recognize sticking mechanisms and apply drilling practices

### **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 advanced overview on drilling practices for senior engineers, field and drilling personnel, drilling engineering supervisors, drilling operations section leaders, tool pushers, managers, well engineers and other technical staff who are involved in the planning and implementation of drilling programs.

### **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\$ 8,500** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), 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.

**Certificate Accreditations**

Certificates are accredited by the following international accreditation organizations: -


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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.

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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.

**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, PhD, MSc,** is a **Senior Petroleum Engineer** with over **30 years** of international experience within the **onshore and offshore oil & gas** industry. His wide experience covers **Decision Analytic Modelling Methods for Economic Evaluation, Probabilistic Risk Analysis (Monte Carlo Simulator) Risk Analysis Foundations, Global Oil Demand, Crude Oil Market, Global Oil Reserves, Oil Supply & Demand, Governmental Legislation, Contractual Agreements, Financial Modeling, Oil Contracts, Project Risk Analysis, Feasibility Analysis Techniques, Capital Operational Costs, Oil & Gas Exploration Methods, Reservoir Evaluation, Extraction of Oil & Gas,**

**Crude Oil Types & Specifications, Sulphur, Sour Natural Gas, Natural Gas Sweetening, Petroleum Production, Field Layout, Production Techniques & Control, Surface Production Operations, Oil Processing, Oil Transportation-Methods, Flowmetering & Custody Transfer and Oil Refinery.** Further, he is also well-versed in **Enhanced Oil Recovery (EOR), Electrical Submersible Pumps (ESP), Oil Industries Orientation, Geophysics, Cased Hole Formation Evaluation, Cased Hole Applications, Cased Hole Logs, Production Operations, Production Management, Perforating Methods & Design, Perforating Operations, Fishing Operations, Well & Reservoir Testing, Reservoir Stimulation, Hydraulic Fracturing, Carbonate Acidizing, Sandstone Acidizing, Drilling Fluids Technology, Drilling Operations, Directional Drilling, Artificial Lift, Gas Lift Design, Gas Lift Operations, Petroleum Business, Petroleum Economics, Field Development Planning, Gas Lift Valve Changing & Installation, Well Completion Design & Operation, Well Surveillance, Well Testing, Well Stimulation & Control and Workover Planning, Completions & Workover, Rig Sizing, Hole Cleaning & Logging, Well Completion, Servicing and 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, Slickline, Wireline & Coil Tubing, Pipeline Pigging, Corrosion Monitoring, Cathodic Protection** as well as **Root Cause Analysis (RCA), Root Cause Failure Analysis (RCFA), Gas Conditioning & Process Technology, Production Safety and Delusion of Asphalt.** 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 in 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 and Drilling & Workover Engineer, Operations Consultant, 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 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 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	<i>Registration &amp; Coffee</i>
0800 - 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<b>Drilling Process</b> <i>Drilling Services • Drilling Sequence • BHA Design &amp; Components • Drilling Rig • Directional &amp; Horizontal Drilling • History of PDC's • Main Features of PDC's • PDC Bit Design • Body Material • Bit Profile</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Drilling Process (cont'd)</b> <i>Bit Selection &amp; Dull Bit Grading • Gauge Protection • Cutter Shape • Hydraulics • Uses of PDC Bits • Other Application of PDC Bits • Limitations of PDC Bits • Possible PDC Bit Improvements • Well Types • Site Preparation</i>
1100 – 1215	<b>Drilling Process (cont'd)</b> <i>Standard HSE Procedures at the Rig Site • Drilling Sequence • Cost Control &amp; Evaluating Alternative Drilling Methods • Constituents of Drilling Fluids &amp; its Function, Pressure Losses in the Circulating System and ECD • Cementing Equipment • Cement Slurry Design • Viscosity – Simple Definition • Viscosity – Importance • Viscosity – Technical Definition • Shear rate – Definition</i>
1215 – 1230	<i>Break</i>
1230 – 1420	<b>Drilling Process (cont'd)</b> <i>Shear Stress/Shear Rate Illustration • Plastic Viscosity – Definitions • Causes of Plastic Viscosity Changes • Methods to Decrease Plastic Viscosity • Yield Point – Definitions • Causes of Yield Point Increases • Methods for Decreasing Yield Points • Gel Strength – Definition • Gel Strength – Importance</i>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

**Day 2**

0730 – 0930	<b>Rheology Models</b> <i>Newtonian Fluids • Non-Newtonian Fluids • Rheological Models • Bingham Plastic Equation • Bingham Plastic Model • Power Law Equation</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Rheology Models (cont'd)</b> <i>Power Law Model • n Value • “n” Value Relationships • K Value • “K” Value Relationships • Power Law Model Weakness</i>
1100 – 1230	<b>Filtration Control</b> <i>Filtration Control Importance • Filtration Control Types • Static Filtration Characteristics • Dynamic Filtration Characteristics • Fluid Loss Measurement Static (API) • Fluid Loss – Static (HTHP)</i>

1230 – 1245	Break
1245 – 1420	<b>Filtration Control (cont'd)</b> Fluid Loss Measurement Static HT-HP • API vs HT-HP • Dynamic HT-HP • Darcy's Law • Relationship of Filtrate Volume vs Times • Filter Cake Quality • Filter Cake Materials – Beneficial
1420 – 1430	Recap
1430	Lunch & End of Day Two

**Day 3**

0730 – 0930	<b>Logging Services</b> Open Hole Logging • Cased Hole Logging
0930 – 0945	Break
0945 – 1100	<b>BHA Design</b> BHA Design (Components) • Project Cost Analysis • Drill a Well Cost Effectively & Maximize Penetration Rate • Wellbore Pressure & Different Well Controls for Different Scenarios
1100 – 1230	<b>Stuck Pipe</b> Stuck Pipe Introduction • Sticking Mechanism • Evaluate Stuck Pipe Problems & Avoid Potential Problems by Optimizing Hole Cleaning & ROP
1230 – 1245	Break
1245 – 1420	<b>Fishing Operations &amp; Tools</b> Casing & Drill String Design • Selection of Casing Seats • BOP Equipment • Design, Drill String & BOP/Wellheads • Design & Implement Bit & Hydraulics Programs
1420 – 1430	Recap
1430	Lunch & End of Day Three

**Day 4**

0730 – 0930	<b>Side Track Operations (Including Whip Stock Technique)</b>
0930 – 0945	Break
0945 – 1100	<b>Safety Alerts</b>
1100 – 1230	<b>Sticking Mechanisms</b> Unconsolidated Formations • Mobile Formations • Fracture and Faulted Formations • Naturally Over-pressure Shale Collapse • Induced Over-Pressured Shale Collapse • Reactive Formations • Hole Cleaning • Tectonically Stressed Formations • Solids Induced Pack-Off
1230 – 1245	Break
1245 – 1420	<b>Drilling Practices – Different Problems Linked with Actual Case Studies</b> Drilling Problems • AEB-3 Problem & Required Fishing Operations
1420 – 1430	Recap
1430	Lunch & End of Day Four

**Day 5**

0730 – 0930	<b>Drilling Practices – Actual Drilling Well Case Study</b> Introduction • Alamein Field • Well NEAL-21 Summary • Well NEAL-21 Summary – Lithology Column CSG Design
0930 – 0945	Break
0945 – 1100	<b>Drilling Practices – Actual Drilling Well Case Study (cont'd)</b> NEAL # 21 Drilling History • NEAL # 21 Drilling Parameters (12 ¼" OH) • NEAL # 21 Drilling History - 8 ½" Vertical Section • NEAL # 21 Drilling Parameters (8 ½" OH)
1100 – 1230	<b>Drilling Practices – Actual Drilling Well Case Study (cont'd)</b> NEAL # 21 OHL, 7" Liner W/ CMT & CBL-VDL-GR-CCL • NEAL # 21 (WBS, CSG & CMT Summary) • NEAL # 21 Progress Charts (Time VS Depth) • NEAL # 21 Progress Charts (Cost VS Depth)
1230 – 1245	Break
1245 – 1345	<b>Coach Others</b>
1345 – 1400	<b>Course Conclusion</b>
1400 - 1415	<b>POST-TEST</b>
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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