



COURSE OVERVIEW DE0197 Drilling Optimization

Course Title

Drilling Optimization

Course Date/Venue

July 27-31, 2025/Nejma Meeting Room,
Pullman Doha West Bay Hotel, Doha, Qatar

Course Reference

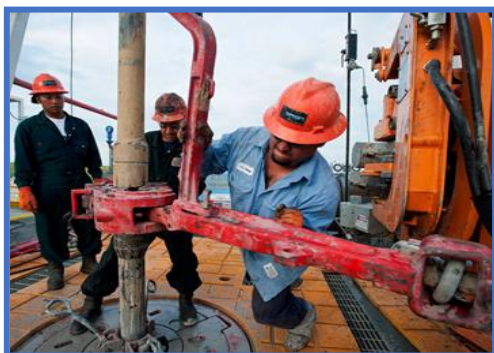
DE0197

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 drilling optimization. It covers the risk analysis, technical limit and techniques to quantum change limits; the key performance indicators (KPI) and the impact of wellbore stability; the drill string mechanics, well design concepts and well construction design to wellsite operations; the drilling fluid calculations, directional drilling and measurement while drilling systems (MWD); and the controllable and non-controllable non-production time (NPT).



Further, the course will also discuss the performance limitations, stuck pipe refresher, measurements and technology enablers; the ROP monitoring and improvement techniques; the typical drilling plan and drilling optimization; the optimization elements and petroleum rock mechanics; the wellbore stability analysis, rock strength and rock failure; the cost-time analysis, common drilling problems, limit state function and probability failure function; and the process optimization and rate of penetration monitoring.

During this interactive course, participants will learn the technical limits and quantum change in limits; the advanced drilling techniques; the software tools, well site parameters and drill string inventory optimization; the use of kill sheets; and the task analysis.

Course Objectives

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

- Apply systematic techniques on drilling problems and optimization
- Discuss the basics of drilling operations optimization
- Carryout risk analysis, technical limit identification and techniques to quantum change limits
- Recognize key performance indicators (KPI) and the impact of wellbore stability
- Discuss drill string mechanics, well design concepts and well construction design to wellsite operations
- Employ drilling fluid calculations, directional drilling and measurement while drilling systems (MWD)
- Differentiate controllable and non-controllable non-production time (NPT)
- Determine performance limitations, stuck pipe refresher, measurements and technology enablers
- Apply ROP monitoring and improvement techniques as well as typical drilling plan and drilling optimization
- Identify optimization elements and petroleum rock mechanics
- Carryout wellbore stability analysis and identify rock strength and rock failure
- Illustrate cost-time analysis and recognize the common drilling problems, limit state function and probability failure function
- Optimize process and monitor the rate of penetration
- Determine technical limits and quantum change in limits as well as apply advanced drilling techniques
- Recognize software tools, well site parameters and drill string inventory optimization
- Use kill sheets as well as apply task analysis and lessons learned

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 covers systematic techniques on drilling problems and optimization for those who are working in the field of well engineering, oil and gas exploration, geology and reservoir modelling.

Certificate Accreditations

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.



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 **Asset Management** Principles, Risks & Economics, **Petroleum Economics**, **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**, **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'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**.



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

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: Sunday, 27th of July 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Risk Analysis
0930 – 0945	Break
0945 – 1015	Technical Limit Identification: Techniques to Quantum Change Limits
1015 – 1045	Key Performance Indicators (KPI)
1045 – 1115	Impact of Wellbore Stability
1115 – 1145	Drill String Mechanics
1145 – 1215	Well Design Concepts
1215 – 1230	Break
1230 – 1330	Well Construction Design to Wellsite Operations
1330 – 1420	Drilling Fluid Calculations
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 28th of July 2025

0730 – 0845	Directional Drilling
0845 – 0930	Measurement While Drilling Systems (MWD)
0930 – 0945	Break
0945 – 1030	Controllable & Non-controllable Non-production Time (NPT)
1030 – 1100	Performance Limitations
1100 – 1215	Stuck Pipe Refresher



1215 – 1230	Break
1230 – 1420	Measurements & Technology Enablers
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 29th of July 2025

0730 – 0845	ROP Monitoring & Improvement Techniques
0845 – 0930	Typical Drilling Plan
0930 – 0945	Break
0945 – 1030	Introduction to Drilling Optimization
1030 – 1115	Optimization Elements
1115 – 1215	Petroleum Rock Mechanics
1215 – 1230	Break
1230 – 1420	Wellbore Stability Analysis
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 30th of July 2025

0730 – 0845	Rock Strength & Rock Failure
0845 – 0930	Cost-time Analysis
0930 – 0945	Break
0945 – 1030	Common Drilling Problems
1030 – 1115	Limit State Function & Probability Failure Function
1115 – 1215	Optimization of a Process & its Elements
1215 – 1230	Break
1230 – 1420	Rate of Penetration Monitoring
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Thursday, 31st of July 2025

0730 – 0845	Technical Limits & Quantum Change in Limits
0845 – 0930	Advanced Drilling Techniques
0930 – 0945	Break
0945 – 1030	Software Tools
1030 – 1115	Well Site Parameters & Drill String Inventory Optimization
1115 – 1215	Kill Sheets Use
1215 – 1230	Break
1230 – 1345	Task Analysis & Lessons Learned
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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