COURSE OVERVIEW DE0780
Drilling Fluids

Course Title
Drilling Fluids

Course Date/Venue
Session 1: April 11-15, 2027/Meeting Plus 9, City Centre Rotana, Doha, Qatar
Session 2: September 26-30, 2027/Meeting Plus 9, City Centre Rotana, Doha, Qatar



Course Reference
DE0780

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. This course covers all aspects of drilling fluids technology, emphasizing both theory and practical application. Drilling is a complex operation requiring the marriage of different technologies and disciplines. Today's drilling personnel must have a working knowledge of drilling fluid in order to effectively drill a well. This course provides the fundamentals necessary to drill a well, whether it is a shallow well or a complex, high pressure well.



During this interactive course, participants will learn the basic system classifications and function of additives; the various types of fluids including clear fluid systems, solids-enhanced fluids, contaminants, and handling and transporting fluids treatments and corrosive; the corrosion, including drilling-fluids corrosive agents and packer fluids; the drilling fluid contaminants and corrective treatments; the selection of water phase salinity and activity for bore hole stability as well as non-aqueous fluids to meet drilling requirements and environmental concerns; and the non-aqueous drilling fluid systems.



Course Objectives/Outcomes & Benefits for the Participants

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

- Apply a comprehensive knowledge on drilling fluids
- Determine the basic system classifications and function of additives
- Discuss the various types of fluids including clear fluid systems, solids-enhanced fluids, contaminants, and handling and transporting fluids treatments and corrosive
- Identify the corrosion, including drilling-fluids corrosive agents and packer fluids
- Identify drilling fluid contaminants and prescribe corrective treatments
- Select water phase salinity and activity for bore hole stability and select non-aqueous fluids to meet drilling requirements and environmental concerns
- Manage non-aqueous drilling fluid systems

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 drilling fluids technology for drilling engineers, drilling representatives, drilling fluid engineers and contractor personnel, drilling supervisors, mud engineers, cementing engineers (offshore and onshore personnel), tool pushers, managers and technical support involved with drilling operations and responsible for the development, planning and application of the drilling fluids program.

Training Methodology

Our courses employ an interactive, learner-centred methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

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

Haward's 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**. 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.

- 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 **Drilling & Drilling Fluids**, **Rigs Inspection & Audit**, **Well Testing Operations & Analysis**, **Drilling Fluids Technology**, Drilling **Operations**, **Directional** Drilling, **Coiled Tubing Technology**, **Corrosion Control**, **Slickline**, **Wireline & Coil Tubing**, **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 Sweeting**, **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, **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**, **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 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	***Classification of Drilling Fluids & Additives*** *Basic System Classifications • Functions of Additives*
0930 – 0945	*Break*
0945 – 1130	***Completion Fluids*** *Overview • Clear-Fluid Systems • Solids-Enhanced Fluids • Contaminants • Handling & Transporting Fluids*
1130 – 1215	***Basic Chemistry***
1215 – 1230	*Break*
1230 – 1330	***Clay Chemistry***
1330 – 1420	***Corrosion*** *Corrosion Overview • Drilling-Fluid Corrosive Agents • Packer-Fluid Treatments • Corrosivity of Completion/Wo Fluids • Corrosion Test Corrosion Troubleshooting • Product Information*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Displacement*** *Displacement Overview • Displacement Procedure • Spacer Recommendations & Formulations*
0830 – 0930	***Drill-In Fluids*** *Overview Drill-In Fluid Systems • Available DIF Systems*
0930 – 0945	*Break*
0945 – 1100	***Field & Specialized Tests*** *Overview Field Testing • Field Tests Explained • Overview Specialized Tests • Specialized Tests Explained • Test Equipment, Procedures & Results*
1100 – 1215	***Foam & Aerated Fluids*** *Overview • Air Drilling • Foam Drilling • Aerated Mud • Determining Hydrostatic Loss Caused by Gas-Cut Mud • Corrosion*
1215 – 1230	*Break*

1230 – 1420	***Lost Circulation*** *Overview Lost Circulation • Formations in Which Circulation May Be Lost • Corrective Procedures & Formulations • Locating the Loss Zone*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Oil-Based Muds*** *Overview • Oil-Based-Mud (OBM) Systems • Mud Management • Logging in OBMSpecial Applications • Product Usage Information*
0830 – 0930	***Rheology & Hydraulics*** *Overview • Rheological Terms • Flow Regimes • Fluid Types • Rheological Models • Hydraulics Calculation Terms • Fluid Hydraulics Equations*
0930 – 0945	*Break*
0945 – 1100	***Solids Control*** *Overview • Sources & Sizes of Solids • Mechanical Solids-Removal Equipment*
1100 – 1215	***Screen Devices***
1215 – 1230	*Break*
1230 – 1330	***Centrifugal Separation Devices*** *Dilution • Efficiency of Solids-Control Equipment*
1330 – 1420	***Stuck Pipe*** *Overview • Differential Sticking • Determining Depth to Stuck Zone • Packing off • Undergauge Hole • Keyseating • Freeing Stuck Pipe*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0900	***Synthetic Based Muds (SBM)*** *Classification of SBM Systems • SBM Systems Overview • Commercial SBM Systems • Logging Through SBM*
0900 – 0915	*Break*
0915 – 1045	***Tables-Charts-Calculations*** *Overview • Formulas for Adjusting Drilling Fluid Properties • Formulas for Calculating Area & Volume • Dimensions • Chemical Properties • Physical Properties • Specific Materials • Metric & Standard Conversion Factors*
1045 – 1215	***Troubleshooting*** *Completion/Workover Fluids • Foam/Aerated Drilling Fluids • Oil-Based Muds • Synthetic-Based Muds • Water-Based Muds*
1215 – 1230	*Break*
1230 – 1330	***Water-Based Drilling Fluids*** *Water-Based Mud (WBM) Systems • High Performance Water-Based Muds (HPWM)*
1330 – 1420	***Well Cementing***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0900	***HS&E Considerations (Health, Safety & Environmental)***
0900 – 0915	*Break*
0915 – 1045	***Well Control*** *Overview • Kicks • Shut-In Procedures • Kill methods • Kick Control Problems*
1045 – 1230	***Cuttings, Cleaning & Disposal***
1230 – 1245	*Break*
1245 – 1345	***Drill Cuttings Evaluation*** *Overview Drill Cuttings Evaluation • Cuttings Description Format • Clastic Rocks • Carbonate Rocks • Chemical Rocks • Carbonaceous Rocks • Igneous Rocks • Metamorphic Rocks • Sample Contamination*
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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