COURSE OVERVIEW DE0453
Multilateral Drilling

Course Title
Multilateral Drilling

Course Date/Venue
Session 1: February 02-06, 2025/Oryx Meeting Room, Double Tree by Hilton Al Saad, Doha, Qatar
Session 2: August 03-07, 2025/Oryx Meeting Room, Double Tree by Hilton Al Saad, Doha, Qatar

Course Reference
DE0453

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 Multilateral Drilling. It covers the multilateral drilling technology and the basic concepts, types of multilateral wells; the geological considerations suited for multilateral wells; the cost-benefit analysis and risk assessment; the drilling techniques. well design and architecture; the specialized drilling tools, directional drilling equipment and MWD/LWD systems; the selection of drilling fluids, hydraulics optimization and hole cleaning; and the techniques for monitoring drilling operations in real-time.

During this interactive course, participants will learn the completion strategies for multilateral wells and creating and maintaining well junctions, the sand control, stimulation and enhanced recovery techniques; the artificial lift system and drilling hazards management; the HSE considerations in multilateral drilling and troubleshooting common issue; the techniques to enhance production and the latest technologies and tools in multilateral drilling; and the legal aspects impacting drilling operations.

Course Objectives

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

- Apply and gain an in-depth knowledge on multilateral drilling
- Discuss the multilateral drilling technology including the basic concepts, types of multilateral wells and terminology
- Explain the geological considerations suited for multilateral wells, plan multilateral wells and apply cost-benefit analysis cost-benefit analysis and risk assessment
- Carryout drilling techniques covering sidetracking, horizontal drilling and advanced drilling techniques
- Illustrate well design and architecture and recognize the specialized drilling tools, directional drilling equipment and MWD/LWD systems
- Apply proper selection of drilling fluids, hydraulics optimization and hole cleaning as well as techniques for monitoring drilling operations in real-time
- Employ completion strategies for multilateral wells and techniques for creating and maintaining well junctions
- Carryout sand control, stimulation and enhanced recovery techniques, artificial life system and drilling hazards management
- Discuss the HSE considerations in multilateral drilling and troubleshoot common issue by dealing with stuck pipe, loss of circulation and other drilling complications
- Implement techniques to enhance production from multilateral wells including routine and predictive maintenance strategies
- Discuss the latest technologies and tools in multilateral drilling and how multilateral drilling integrates with subsea operations and unconventional resources
- Address environmental concerns in multilateral drilling and review the legal aspects impacting drilling operations

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 multilateral drilling for drilling engineers, drilling engineering supervisors, drilling operations section leaders, tool pushers, managers, well engineers and technical support personnel.

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: -

- 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.

- 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 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 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:

Mr. Konstantin Zorbalas , MSc, BSc, is a **Senior Petroleum Engineer & Well Completions Specialist** with **35 years** of **offshore** and **onshore** experience in the **Oil** & **Gas**, **Refinery** & **Petroleum** industries. His wide expertise includes **OIP Estimation & Range** of **Uncertainty**, **Waterflood** Management, **Water Flooding**, **Water Flooding & Reservoir** Sourcing Issues, **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Well & Reservoir Management** and Monitoring, **Fishing Operations**, **Drilling & Work-Over Operations**, **Workover Best Practices**, Well Testing, Completion Design & Operation, Well Stimulation and **Workover**, **Well Stimulation & Workover** Planning, **Well Completion**, **Servicing & Work-Over** Operations, **Completions & Workover**, HSE in **Work-Over & Drilling** Operations, **Well Testing Completion & Workover**, Basic **Drilling**, **Completion & Workover** Operations, Advanced **Drilling**, **Completion & Workovers Fluids**, **Cementing** Integrity Evaluation, **Cementing** Design, **Cement** Integrity Assurance & Evaluation, Basic **Cementing** (Operations) & Basic Acidizing, **Advanced** Cementing Technology, **Casing & Cementing, Advanced** Cementing & Stimulation, **Artificial Lift** Systems, New Technology in **Artificial Lift Systems**, **Artificial Lift** Methods, **Crude Oil Artificial Lift** Operations, **Artificial Lift** Systems, **Artificial Lift** & Challenges, **Artificial Lift** Systems & Optimization Technology, Production Optimization with **Artificial Lift** System, **Well Integrity & Artificial Lift**, **Formation Damage** & Flow Assurance Issues, **Formation Damage** Evaluation, Prevention, Remediation & Control, **Formation Damage** (Causes, Prevention & Remediation), **Well Completion** Design & Operations, Crude **Oil Market**, Oil **Reserves**, Global Oil **Supply & Demand**, Government Legislation & Oil **Contractual** Agreements, Oil **Projects & Their Feasibility** (Revenue and Profitability), Oil & Gas **Exploration** and **Methods**, Oil & Gas **Extraction**, Oil **Production & Refining**, Technology Usage in Industrial Security; **Oil & Gas Economics** Modelling Evaluation Decision Making & Risk Analysis, **Economic Evaluation** & Global Profitability Criteria, **Petroleum Economics**, Fluid Properties & Phase Behaviour (**PVT**), **Workovers & Completions**, Acidizing Application in **Sandstone & Carbonate**, **Well Testing** Analysis, **Reserves** Evaluation, **Reservoir** Fluid Properties, **Reservoir** Monitoring, **Heavy Oil** Technology, Applied **Water Technology**, **X-mas Tree & Wellhead** Operations & Testing, **Artificial Lift** Systems (**Gas Lift**, **ESP**, and **Rod Pumping**), **Well Cementing**, **Well Completion** Design, **Slickline** Operations, **Cased Hole Logging** and **Production Logging**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **Abu Dhabi National Oil Company** (**ADNOC**) Group of companies wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer**, **Well Completion Specialist**, **Production Manager**, **Project Manager**, **Technical Manager**, **Trainer**, **Technical Supervisor** & **Contracts Manager**, **Production Engineer**, **Production Supervisor**, **Production Technologist**, **Technical Specialist**, **Business Development Analyst**, **Field Production Engineer** and **Field Engineer**. He worked for many **world-class oil/gas companies** such as **ZADCO**, **ADMA-OPCO**, **Oilfield International Ltd**, **Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P**, **Saudi Aramco**, **Pluspetrol E&P SA**, **Wintershall**, **Taylor Energy**, **Schlumberger**, **Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP** and **Gas Lift systems**.

Mr. Zorbalas has **Master's** and **Bachelor's** degrees in **Petroleum Engineering** from the **Mississippi State University**, **USA**. Further, he is an **SPE Certified Petroleum Engineer**, **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

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 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 – 0745	*Registration & Coffee*
0745 – 0800	*Welcome & Introduction*
0800 – 0815	***PRE-TEST***
0815 – 0930	***Overview of Multilateral Drilling Technology:*** *History, Evolution & Current Trends*
0930 – 0945	*Break*
0945 – 1030	***Fundamentals of Multilateral Drilling:*** *Basic Concepts, Types of Multilateral Wells & Terminology*
1030 – 1130	***Geological Considerations:*** *Understanding the Geology Suited for Multilateral Wells*
1130 – 1230	***Planning Multilateral Wells:*** *Objectives, Design Criteria & Pre-Planning Simulations*
1230 – 1245	*Break*
1245 – 1330	***Economic & Risk Analysis:*** *Cost-Benefit Analysis, Risk Assessment & Economic Drivers*
1330 – 1420	***Case Studies:*** *Review of Successful Multilateral Drilling Projects Globally*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Drilling Techniques:*** *Sidetracking, Horizontal Drilling & Advanced Drilling Techniques*
0830 – 0930	***Well Design & Architecture:*** *Junction Types, TAML Levels & Completion Technologies*
0930 – 0945	*Break*
0945 – 1130	***Tools & Equipment:*** *Specialized Drilling Tools, Directional Drilling Equipment & MWD/LWD System*

1130 – 1230	***Drilling Fluids & Hydraulics:*** *Selection of Drilling Fluids, Hydraulics Optimization & Hole Cleaning*
1230 – 1245	*Break*
1245 – 1420	***Real-Time Monitoring & Control:*** *Techniques for Monitoring Drilling Operations in Real-Time*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Completion Strategies for Multilateral Wells:*** *Standard & Advanced Completion Methods*
0930 – 0945	*Break*
0945 – 1030	***Junction Technology:*** *Techniques for Creating & Maintaining Well Junction*
1030 – 1130	***Sand Control:*** *Methods & Equipment for Managing Sand Production*
1130 – 1230	***Stimulation & Enhanced Recovery Techniques:*** *Fracturing, Acidizing & Other Stimulation Methods*
1230 – 1245	*Break*
1245 – 1330	***Artificial Lift Systems****: Overview of Lift Systems Suitable for Multilateral Wells*
1330 – 1420	***Interactive Discussion:*** *Challenges & Solutions in Multilateral Completion Technologies*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Managing Drilling Hazards:*** *Identification & Mitigation of Common Drilling Hazards*
0830 – 0930	***HSE Considerations in Multilateral Drilling****: Health, Safety & Environmental Practices*
0930 – 0945	*Break*
0945 – 1030	***Troubleshooting Common Issues****: Dealing with Stuck Pipe, Loss of Circulation & Other Drilling Complications*
1030 – 1130	***Production Optimization:*** *Techniques to Enhance Production from Multilateral Wells*
1130 - 1230	***Maintenance & Surveillance:*** *Routine & Predictive Maintenance Strategies*
1230 – 1245	*Break*
1245 - 1420	***Group Activity:*** *Problem-Solving Real-World Scenarios Encountered in Multilateral Drilling*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Innovations in Multilateral Drilling:*** *Latest Technologies & Tools in Development*
0830 – 0930	***Integration with Other Technologies:*** *How Multilateral Drilling Integrates with Subsea Operations & Unconventional Resources*
0930 – 0945	*Break*

0945 – 1045	***Automated & Digital Drilling Solutions:*** *The Role of AI & Machine Learning in Drilling*
1045 – 1230	***Sustainability & Environmental Impact****: Addressing Environmental Concerns in Multilateral Drilling*
1230 - 1245	*Break*
1245 - 1330	***Regulatory & Legal Frameworks****: Understanding the Legal Aspects Impacting Drilling Operations*
1330 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 - 1430	*Presentation of 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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