

COURSE OVERVIEW DE0150
Advanced Completion Technology

Course Title

Advanced Completion Technology

Course Date/Venue

Session 1: May 05-09, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Session 2: November 02-06, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



Course Reference

DE0150



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.

Over the past decades there has been a significant increase in the technology applied to drilling and completion in the oil and gas wells. This has primarily been driven by the need to reduce well costs, increase access to new reserves and re-exploit mature reservoirs. The cost of drilling, completing and operating wells is the most expensive investment component in many developments and optimization of investment is a balance between how the increased costs of technology can reduce the cost per barrel but at the same time be cost and operationally effective.



This course is intended to provide participants with an in-depth knowledge of the technology and processes of drilling & completing in a variety of environments for oil and gas exploitation, where it will cover the areas on drilling types, techniques, operation, calculations, equipment selections and planning for directional and horizontal wells. Specific problems associated with directional/horizontal drilling such as torque, drag, hole cleaning, logging, drill string component design, completion design and pay-zone-borehole connection are also included.



Course Objectives

Upon completion of this course, participants will be able to:-

- Apply and gain an in-depth knowledge on enhanced management of operation for drilling and completion
- Recognize with the principles of drilling technology including its operation and systems, drilling equipment selection, applications for directional drilling, directional profiles and extended reach wells as well as employ new methods to improve drilling performance
- Develop how to compute survey calculations and accuracy and interpret dogleg severity including the problems associated with doglegs
- Explain the planning of directional and horizontal wells and know the proper horizontal drilling methods and applications
- Discuss logging high angle wells, better hole cleaning, enhancing hole & shake stability and multi-lateral wells
- Identify the various types of survey instruments and the tools used to deflect a wellbore
- Illustrate how to compute torque and drag calculations and know the process of cementing
- Discuss the main factors influencing completion design including the parameters related to the well's purpose, environment, drilling, reservoir, production and completion techniques
- Carryout the overall approach to a well's flow capacity, base equations, analysis of the different terms and resulting conclusions as well as performance curves
- Identify the major types of completion configurations and its basic requirements as well the basic configurations of pay zone-borehole connection and main configurations of production string(s)
- Explain the main phases in completion through checking and conditioning the borehole, re-establishing pay zone-borehole communication, well testing, equipment installation and moving the rig
- Define drilling, casing and treating of the pay zone, employ well safety and become familiar with the main types of remedial action for poor consolidation and for insufficient productivity
- Review the process of evaluating and restoring the cement job, understand the principles of perforating and list the main parameters affecting the productivity of the zone produced by perforating
- Recognize special case of horizontal wells and explain the general configuration of flowing well equipment
- Illustrate the general configuration of flowing well equipment, production wellhead as well as production string or tubing
- Discuss the main packer types and list the different types of downhole equipment and subsurface safety valves

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 is primarily designed for drilling engineers & supervisors, reservoir engineers & supervisors, geologists, production and completion engineers & supervisors and well & petroleum engineers needing a practical understanding and an appreciation of drilling and completion technology.

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\$ 8,000 per Delegate + **VAT**. 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 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: -

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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.

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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 Drilling & Petroleum Engineer** with over **40 years** of international experience within the **onshore and offshore oil & gas** industry. His wide experience covers **Horizontal & Multilateral Wells, Well Completion & Stimulation, Artificial Lift System Selection & Design, Drilling Practices, Drilling Fluids Technology, Drilling Operations, Directional Drilling, Formation Damage Evaluation & Preventive, Formation Damage Remediation, Drilling & Formation Damage, Simulation Program for The International Petroleum Business, Well Testing & Analysis, Well Design, Well Testing & Oil Well Performance, Well Test Design Analysis, Well Test Operations, Well Testing & Perforation, Root Cause Analysis (RCA), RCA Method for Process Plant, RCA Techniques, Control Well-Flow Lines Parameters, Decision Analytic Modelling Methods for Economic Evaluation, Probabilistic Risk Analysis (Monte Carlo Simulator) Risk Analysis Foundations, Sulphur, Sour Natural Gas, Natural Gas Sweetening, Petroleum Production, Field Layout, Production Techniques & Control, Surface Production Operations, Project Risk Analysis, Feasibility Analysis Techniques, Capital Operational Costs, 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 Wells 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 & 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, 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 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 – 0915	Introduction Drilling Technology • Drilling Types
0915 – 0930	Break
0930 – 1030	Drilling Operation & Systems
1030 – 1100	Drilling Equipment Selection
1100 – 1115	Break
1115 – 1145	Applications for Directional Drilling
1145 – 1315	New Methods to Improve Drilling Performance
1315 – 1345	Directional Profiles
1345 – 1420	Extended Reach Wells
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 – 0815	Survey Calculations & Accuracy
0815 – 0915	Dogleg Severity Calculations & Problems Associated with Doglegs
0915 – 0930	Break
0930 – 1015	Planning Directional & Horizontal Wells
1015 – 1100	Horizontal Drilling Methods & Applications
1100 – 1115	Break
1115 – 1200	Logging High Angle Wells
1200 – 1315	Better Hole Cleaning
1315 – 1330	Enhancing Hole & Shake Stability
1330 – 1420	Multi-Laterals
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0815	Types of Survey Instruments
0815 – 0915	Tools Used to Deflect a Wellbore
0915 – 0930	Break
0930 – 1015	Torque & Drag Calculations
1015 – 1100	Cementing
1100 – 1115	Break
1115 – 1215	Main Factors Influencing Completion Design Parameters Related to the Well's Purpose • Parameters Related to the Environment • Parameters Related to Drilling • Parameters Related to Reservoir • Parameters Related to Production • Parameters Related to Completion Techniques • Synthesis: How Completion is Designed?



1215 – 1315	Overall Approach to A Well's Flow Capacity Base Equations • Analysis of the Different Terms and Resulting Conclusions • Performance Curves • Synthesis
1315 - 1420	Major Types of Completion Configurations Basic Requirements • Pay Zone-Borehole Connection: Basic Configurations • Main Configurations of Production String(S)
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 – 0830	Main Phases in Completion Checking and Conditioning the Borehole • Remedial Cementing • Re-Establishing Pay Zone-Borehole Communication • Well Testing • Treating the Pay Zone • Equipment Installation • Putting the Well on Stream and Assessing Performance • Moving the Rig • Operations to be Performed at a Later Date: Measurements, Maintenance, Workover and Abandonment
0830 – 0915	Drilling & Casing the Pay Zone Well Safety • Fluids Used to Drill In the Pay Zone • Drilling and Casing Diameters • Casing and Cementing
0915 – 0930	Break
0930 – 1100	Evaluating & Restoring the Cement Job Evaluating the Cement Job • Remedial Cementing
1100 – 1115	Break
1115 – 1215	Perforating Shaped Charges • Main Parameters Affecting the Productivity of the Zone Produced By Perforating • Perforating Methods and Corresponding Types of Guns • Specific Points in the Operating Technique
1215 – 1315	Treating the Pay Zone Problems Encountered • Main Types of Remedial Action for Poor Consolidation: Sand Control • Main Types of Remedial Action for Insufficient Productivity: Well Stimulation
1315 – 1420	The Special Case of Horizontal Wells Advantages In Producing Reservoirs • Problems Specific to the Pay-Zone-Borehole Connection
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0815	General Configuration of Flowing Well Equipment
0815 – 0915	The Production Wellhead
0915 – 0930	Break
0930 – 1030	The Production String or Tubing
1030 - 1130	Packers Packer Fluids (or Annular Fluids) • The Main Packer Types • Choosing the Packer • Permanent Production Packers • Retrievable Packers
1130 - 1215	Downhole Equipment

1215 - 1230	Break
1230 - 1345	Subsurface Safety Valves
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

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org