



COURSE OVERVIEW DE0072 Advanced Completion Design and Operation

Course Title

Advanced Completion Design and Operation

Course Date/Venue

Please see page 3

Course Reference

DE0072

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 an advanced and up-to-date overview of advanced completion technology. It covers the well completion design, practices and strategies; the main factors influencing completion design that include parameters related to the well's purpose, environment, drilling, reservoir, production and completion techniques; the overall approach to a well's flow capacity; the major types of completion configurations; the main phases in completion including drilling and casing the pay zone; and the evaluation and restoration of cement job including remedial cementing.



During this interactive course, participants will learn the perforation, treating the pay-zone and sand control; the special case of horizontal wells and the general configuration of flowing well equipment; the wellheads/chokes/subsurface safety valves and flow control equipment; the production well-head, production string or tubing and packers; and the material selection, downhole equipment and subsurface safety valves.



Course Objectives

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

- Apply and gain an advanced knowledge on advanced completion technology
- Employ well completion design, practices and strategies
- Identify the main factors influencing completion design that include parameters related to the well's purpose, environment, drilling, reservoir, production and completion techniques
- Describe the overall approach to a well's flow capacity and identify the major types of completion configurations
- Recognize the main phases in completion including drilling and casing the pay zone
- Evaluate and restore cement job including remedial cementing
- Illustrate perforating, treating the pay zone and sand control
- Explain the special case of horizontal wells and apply the general configuration of flowing well equipment
- Recognize wellheads/chokes/subsurface safety valves and flow control equipment
- Discuss the production well-head, production string or tubing and packers
- Identify material selection, 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**.*

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.



Who Should Attend

This course covers systematic techniques and methodologies on advanced completion technology for senior engineers, drilling engineers, reservoir engineers, well, production, completion and petroleum engineers, supervisors and geologists.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Date/Venue

Session(s)	Date	Venue
1	June 21-25, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
2	August 16-20, 2026	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
3	September 27-October 01, 2026	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
4	November 15-19, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
5	December 27-31, 2026	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain
6	January 03-07, 2027	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
7	February 14-18, 2027	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain

Course Fee

Doha	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.
Istanbul	US\$ 8,500 per Delegate + VAT. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Seville	US\$ 8,800 per Delegate + VAT. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	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.



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

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. Brendon Billings, MSc, BSc, is a **Senior Petroleum Engineer** and **Well Service Consultant** with over 30 years of international experience in **Drilling/Reservoir/Petroleum Engineering** and **Well Service Operations**. He is a **recognized authority** in “**Hands On**” **Service and Drilling Operations**, **Well Completions (Riggless Operations)**, **Product Optimization**, **Wellhead Operations**, **Wellbore Interventions**, **High Volume Lift**

Project Management, **Reservoir Optimization**, **Well Testing**, **Wire/Slickline Equipment** and **Operations**, **Coil Tubing**, **Water Flooding**, **Electric Submersible Pumps (ESPs)**, **Gas Lifts & Steam Assist Gravity Drain (SAGD) Applications**, **Facility Inspection**, **Root Cause Failure Management** and **Power Factor Management**. Currently, he is the **President** of a large specialized engineering services provider to the **North-American Sedimentary Basin Production** and other international clients. Moreover, he occupies a **consultant position** and remains to offer his expertise in many areas of the **drilling discipline** and is well **recognized & respected** for his process, procedural expertise, *modus operandi* as well as ongoing participation, interest and experience in continuing to promote technology to producers around the world.

Throughout his long career life, Mr. Billings 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, procedural expertise** and **modus operandi**. Further, he was the **Projects Manager** at **Sherit Petreola** where he was fully responsible for all **Reservoir Development** activities. He has spent **more than 2000 days** total on **Rig Floors** for **Drilling (onshore/offshore)** and **Well Servicing Operations** jobs. Mr. Billings was the **Senior Applications Expert** for **Schlumberger Canada (REDA Services)** where he was greatly involved in high volume lift and reservoir optimization projects including specialty endeavours like **SAGD and Gas Lift**. He lead special projects for alternative technology applications and was referred to as the **‘technical specialist’** for severe services on ESP applications and had provided in-house & client instruction for ESP application schooling. Previously, he was the **Artificial Lift Services Developer** for **Weatherford**, a leading provider of oilfield services equipment for drilling, evaluation, completion, production and intervention areas. Herein, he was tasked to introduce new ESP technology and lead a project team for ESP facility development & design. Much earlier in his career, he has held positions such as **Operations Supervisor**, **Rig Consultant**, **Project Manager**, **Regional Manager**, **Engineering Representative**, **International Engineering Support Technician**, **Facility Services Manager** and **Power Plant Engineer**.

Mr. Billings has **Master** and **Bachelor** degrees in **Petroleum Engineering** and **Power Engineering**. He is a **licensed Professional Engineer**, a **Certified Instructor/Trainer** and a well respected member of the **Society of Petroleum Engineers (SPE)**. Further, he has conducted **numerous industry short courses** and **SPE workshops**.





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 & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Basic Well Completion Design, Practices & Strategies
0930 – 0945	<i>Break</i>
0945 – 1030	<p>Main Factors Influencing Completion Design</p> <p>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 • <i>Synthesis: How Completion is Designed?</i></p>
1030 – 1230	<p>Overall Approach to a Well's Flow Capacity</p> <p>Base Equations • Analysis of the Different Terms and Resulting Conclusions • Performance Curves • <i>Synthesis</i></p>
1230 – 1245	<i>Break</i>
1245 – 1420	<p>Major Types of Completion Configurations</p> <p>Basic Requirements • Pay Zone-Borehole Connection: Basic Configurations • Main Configurations of Production String(s)</p>
1420 – 1430	<p>Recap</p> <p>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</p>
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0930	<p>Main Phases in Completion</p> <p>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</p>
0930 – 0945	<i>Break</i>
0945 – 1100	<p>Drilling & Casing the Pay Zone</p> <p>Well Safety • Fluids Used to Drill in the Pay Zone • Drilling and Casing Diameters • Casing and Cementing</p>
1100 – 1230	<p>Evaluating & Restoring the Cement Job</p> <p>Evaluating the Cement Job • Remedial Cementing</p>
1230 – 1245	<i>Break</i>
1245 – 1420	<p>Perforating</p> <p>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</p>
1420 – 1430	<p>Recap</p> <p>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</p>
1430	<i>Lunch & End of Day Two</i>



Day 3

0730 – 0930	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
0930 – 0945	<i>Break</i>
0945 – 1100	Sand Control
1100 – 1230	The Special Case of Horizontal Wells Advantages in Producing Reservoirs • Problems Specific to the Pay-Zone-Borehole Connection
1230 – 1245	<i>Break</i>
1245 – 1420	General Configuration of Flowing Well Equipment
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0930	Wellheads/Chokes/Subsurface Safety Valves & Flow Control Equipment
0930 – 0945	<i>Break</i>
0945 – 1100	The Production Wellhead Hanging (and Securing) the Tubing • The Christmas Tree (Xmas Tree)
1100 – 1230	The Production String or Tubing Tubing Characteristics • Choosing the Tubing • Corrosion & Erosion Inflow & Tubing Performance • Tubing Design & Packer Setting & Retrieval
1230 – 1245	<i>Break</i>
1245 – 1420	Packers Packer Fluids (or Annular Fluids) • The Main Packer Type • Choosing the Packer • Permanent Production Packers • Retrievable Packers • Packer Selection & Tubing Forces
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 0930	Material Selection
0930 – 0945	<i>Break</i>
0945 – 1100	Downhole Equipment Circulating Devices • Landing Nipples • Other Downhole Equipment
1100 – 1230	Subsurface Safety Valves Subsurface Controlled Subsurface Safety Valves (SSCSV)
1230 – 1245	<i>Break</i>



1245 – 1345	Subsurface Safety Valves (cont'd) Surface Controlled Subsurface Safety Valves (SCSSV)
1345 – 1400	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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