

COURSE OVERVIEW DE0454
Perforation Design and Applications:
Perforating for Well Performance

Course Title

Perforation Design and Applications: Perforating for Well Performance

Course Date/Venue

Session 1: May 04-08, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Session 2: October 13-17, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE



Course Reference

DE0454



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 Completion Design, Practices and Perforation and provides an in-depth information on the impact of workovers and completion design in maximizing field production and increasing recoverable reserves. It also emphasizes the importance of a team concepts as a determining factor in operations success; gain a greater understanding of how to apply advanced technologies to designing and executing workover jobs; and how to select the best operations method to perform the task in the safest, most efficient manner.



Further, the course will also discuss the significance of completion design in optimizing production; developing a high-level completion strategy for various well types; the importance of interdisciplinary teamwork in the success of completion operations; the key design features of different well types including horizontal, multilateral and high-pressure high-temperature (HPHT) wells; the completion equipment including tubing, packers and completion flow control devices; and the selection criteria for tubing and packers.

During this interactive course, participants will learn the installation and retrieval practices; the flow barrier strategies and applications; the advanced flow control technologies; selecting an appropriate intervention strategy; examining sand control techniques including screens, gravel packs and frac packs; the well stimulation techniques and their application in enhancing well productivity; assessing and addressing formation damage; the techniques and strategies for effective skin removal to enhance flow; the advanced diagnostics for well performance issues; the new innovations in formation treatment; the steps to develop a comprehensive completion program from planning to execution; integrating advanced technologies in completion designs; and the role of regulatory and environmental factors on completion design and practices.

Course Objectives

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

- Apply and gain an in-depth knowledge on completion design, practices and perforation
- Develop a high level completion strategy for wells in a variety of situations
- Select tubing, packers, and completion flow control equipment
- Appraise/design a suitable flow barrier strategy
- Make recommendations on installation and retrieval practices for tubing, packers, etc.
- Identify key design features for horizontal, multilateral, HPHT wells, etc.
- Select an appropriate intervention strategy/equipment
- Identify key features/applicability of the main sand control, fracpack and well stimulation options
- Assess/specify concerns/remedial measures for formation damage/skin removal
- Develop and outline overall strategy for a completion program
- Discuss the significance of completion design in optimizing production
- Carryout proper techniques and considerations for developing strategies for vertical, horizontal and multilateral wells
- Discuss the importance of interdisciplinary teamwork in the success of completion operations
- Recognize key design features of different well types including horizontal, multilateral and high-pressure high-temperature (HPHT) wells
- Identify completion equipment including tubing, packers and completion flow control devices
- Select appropriate tubing and packers based on well conditions and production goals
- Apply best practices and recommendations for the safe and efficient installation and retrieval of equipment
- Design effective flow barriers to ensure well integrity and control
- Discuss the emerging technologies in completion flow control

- Identify common challenges and discuss potential remedial actions during equipment installation
- Employ appropriate intervention strategy and methods for selecting well intervention strategies and equipment
- Examine sand control techniques including screens, gravel packs and frac packs
- Explain well stimulation techniques and their application in enhancing well productivity
- Identify and specify remedial measures for formation damage using proper methods
- Carryout systematic techniques and strategies for effective skin removal to enhance flow
- Utilize cutting-edge diagnostic tools to troubleshoot and optimize well performance
- Discuss new technologies and methods in treating formation damage
- Develop a comprehensive completion program from planning to execution
- Incorporate advanced technologies like real-time monitoring and intelligent completions into program designs
- Understand the impact of regulatory and environmental factors on completion design and practices

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 completion design, practices and perforation for senior engineers, drilling, reservoir, well, production, completion and petroleum engineers & supervisors and geologists who need a practical understanding and appreciation of completion design.

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 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 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 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. Hesham Abdou, PhD, MSc, BSc, is a **Senior Drilling & Petroleum Engineer** with over **35 years** of integrated industrial and academic experience as a **University Professor**. His specialization widely covers in the areas of **Drilling & Completion Technology, Directional Drilling, Horizontal & Sidetracking, Drilling Operation Management, Drilling & Production Equipment, ERD Drilling & Stuck Pipe Prevention, Natural & Artificial Flow Well Completion, Well Testing Procedures & Evaluation, Well Performance, Coiled Tubing Technology, Oil Recovery Methods Enhancement, Well Integrity Management, Well Casing & Cementing, Acid Gas Removal, Heavy Oil Production & Treatment Techniques, Crude Oil Testing & Water Analysis, Crude Oil & Water Sampling Procedures, Equipment Handling Procedures, Crude & Vacuum Process Technology, Gas Conditioning & Processing, Cooling Towers Operation & Troubleshooting, Sucker Rod Pumping, ESP & Gas Lift, PCP & Jet Pump, Pigging Operations, Electric Submersible Pumps (ESP), Progressive Cavity Pumps (PCP), Water Flooding, Water Lift Pumps Troubleshooting, Water System Design & Installation, Water Networks Design Procedures, Water Pumping Process, Pipelines, Pumps, Turbines, Heat Exchangers, Separators, Heaters, Compressors, Storage Tanks, Valves Selection, Compressors, Tank & Tank Farms Operations & Performance, Oil & Gas Transportation, Oil & Gas Production Strategies, Artificial Lift Methods, Piping & Pumping Operations, Oil & Water Source Wells Restoration, Pump Performance Monitoring, Rotor Bearing Modelling, Hydraulic Repairs & Cylinders, Root Cause Analysis, Vibration & Condition Monitoring, Piping Stress Analysis, Amine Gas Sweetening & Sulfur Recovery, Heat & Mass Transfer and Fluid Mechanics.**

During his career life, Dr. Hesham held significant positions and dedication as the **General Manager, Petroleum Engineering Assistant General Manager, Workover Assistant General Manager, Workover Department Manager, Artificial Section Head, Oil & Gas Production Engineer and Senior Instructor/Lecturer** from various companies and universities such as the Cairo University, Helwan University, British University in Egypt, Banha University and Agiba Petroleum Company.

Dr. Hesham has a **PhD and Master** degree in **Mechanical Power Engineering** and a **Bachelor** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** and a **Peer Reviewer**. Dr. Hesham is a member of Egyptian Engineering Syndicate and the Society of Petroleum Engineering. Moreover, he has published technical papers and journals and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.

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: Introduction and Completion Strategy Development

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Overview of Completion Design & Its Impact on Field Production: Introduction to the Course, Discussing the Significance of Completion Design in Optimizing Production
0930 – 0945	Break
0945 – 1030	Developing a High-Level Completion Strategy for Various Well Types: Techniques and Considerations for Developing Strategies for Vertical, Horizontal, and Multilateral Wells
1030 – 1130	Team Concept in Completion Operations: Exploring the Importance of Interdisciplinary Teamwork in the Success of Completion Operations
1130 – 1215	Understanding Well Architectures: Key Design Features of Different Well Types including Horizontal, Multilateral, and High-Pressure High-Temperature (HPHT) Wells
1215 – 1230	Break
1230 – 1330	Introduction to Completion Equipment: Overview of Tubing, Packers, and Completion Flow Control Devices
1330 – 1420	Interactive Session: Case Studies on Successful Completion Strategies: Analysis of Real-World Scenarios Demonstrating Effective Completion Strategies
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Tubing, Packers, and Flow Control

0730 – 0830	Selection Criteria for Tubing & Packers: Detailed Discussion on Selecting the Appropriate Tubing and Packers Based on Well Conditions and Production Goals
0830 – 0930	Installation & Retrieval Practices for Tubing & Packers: Best Practices and Recommendations for the Safe and Efficient Installation and Retrieval of Equipment
0930 – 0945	Break
0945 – 1100	Flow Barrier Strategies & Applications: Designing Effective Flow Barriers to Ensure Well Integrity and Control
1100 – 1215	Workshop: Designing a Completion Setup for a HPHT Well: Hands-on Group Activity to Design a Completion Setup, focusing on HPHT Conditions
1215 – 1230	Break
1230 – 1330	Advanced Flow Control Technologies: Exploration of the Emerging Technologies in Completion Flow Control
1330 – 1420	Discussion: Challenges in Installation and Remedial Measures: Identifying Common Challenges and Discussing Potential Remedial Actions During Equipment Installation
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Well Intervention and Sand Control

0730 – 0830	Selecting an Appropriate Intervention Strategy: Criteria and Methods for Selecting Well Intervention Strategies and Equipment
0830 – 0930	Understanding Sand Control Options: Detailed Examination of Sand Control Techniques, including Screens, Gravel Packs, and Frac Packs
0930 – 0945	Break
0945 – 1100	Designing for Well Stimulation: Overview of Well Stimulation Techniques and their Application in Enhancing Well Productivity
1100 – 1215	Case Study Analysis: Intervention in Multilateral Wells: Analyzing the Challenges and Solutions in Interventions for Complex Well Architectures
1215 – 1230	Break
1230 – 1330	Simulation Exercise: Selecting Sand Control for Different Reservoirs: Participants Use Simulation Tools to Select and Justify Sand Control Methods for Given Reservoir Conditions
1330 – 1420	Panel Discussion: Best Practices in Well Intervention: Experts Discuss and Debate Best Practices and Recent Advancements in Well Intervention
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Formation Damage and Remedial Strategies

0730 – 0830	Assessing & Addressing Formation Damage: Methods to Identify and Specify Remedial Measures for Formation Damage
0830 – 0930	Skin Removal Techniques: Techniques and Strategies for Effective Skin Removal to Enhance Flow
0930 – 0945	Break
0945 – 1100	Advanced Diagnostics for Well Performance Issues: Utilizing Cutting-Edge Diagnostic Tools to Troubleshoot and Optimize Well Performance
1100 – 1215	Interactive Workshop: Developing a Remediation Plan: Participants Develop a Comprehensive Remediation Plan for a Damaged Well
1215 – 1230	Break
1230 – 1330	Technology Showcase: New Innovations in Formation Treatment: Presentation of New Technologies and Methods in Treating Formation Damage
1330 – 1420	Roundtable: Mitigating Formation Damage During Completion: Discussion on Preventive Measures and Mitigation Strategies During the Completion Phase
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Completion Program Development and Execution

0730 – 0830	Outline of a Complete Completion Program: Steps to Develop a Comprehensive Completion Program from Planning to Execution
0830 – 0930	Integrating Advanced Technologies in Completion Designs: How to Incorporate Advanced Technologies Like Real-Time Monitoring and Intelligent Completions into Program Designs
0930 – 0945	Break
0945 – 1100	Role of Regulatory and Environmental Considerations: Understanding the Impact of Regulatory and Environmental Factors on Completion Design and Practices
1100 – 1215	Group Project: Finalizing a Completion Program for a Field Development Plan: Participants Finalize their Completion Program Incorporating Elements Learned Throughout the Course

1215 – 1230	Break
1230 – 1345	Expert Panel: Future Trends in Completion Technology: Insights into the Future of Completion Technology and Practices
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