

COURSE OVERVIEW DE1065
Well Integrity Flow Assurance

Course Title

Well Integrity Flow Assurance

Course Date/Venue

Session 1: January 26-30, 2025/Boardroom
 1, Elite Byblos Hotel Al Barsha,
 Sheikh Zayed Road, Dubai, UAE

Session 2: July 28-August 01, 2025/Fujairah
 Meeting Room, Grand Millennium
 Al Wahda Hotel, Abu Dhabi, UAE



Course Reference

DE1065



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 well integrity. It covers the well integrity management, leak detection techniques and leak repairing techniques; the well barriers including its types, design and selection and construction principles; the various types of well intervention to restore/improve well performance and their impact in well head equipment; and the flow assurance concerns and how they are related to loss of production and integrity.



During this interactive course, participants will learn the operations integrity management and well intervention procedures; improving integrity strategies utilizing imaging technology; maximizing the value of old wells in mature fields utilizing proper well integrity techniques; the well integrity in multi-lateral wells and Christmas tree integrity; the principles of economic analysis including the methods to perform economic analysis of projects and detailed study of discounted cash flow models (DCF); evaluating projects in the oil industry; analyzing results and decision making processes; and applying data interpretation, control and optimization methods in evaluation of petroleum projects.

Course Objectives

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

- Apply and gain a comprehensive knowledge on well integrity
- Apply the principles of world-class digital oil field implementation
- Develop the knowledge relationship between surface (well heads) and downhole
- Investigate leaks and identify cause of leak
- Determine tubing pressures (based on depth of perms, density of fluid and BHFP)
- Explain influence of corrosion models on MAASP pressures and on well life cycle
- Carryout well integrity management covering leak detection techniques and leak repairing techniques
- Identify well barriers including its types, design and selection and construction principles
- Recognize the various types of well intervention to restore/improve well performance and their impact in well head equipment
- Discuss flow assurance concerns and how they are related to loss of production and integrity
- Apply operations integrity management and well intervention procedures
- Improve integrity strategies utilizing imaging technology and maximize the value of old wells in mature fields utilizing proper well integrity techniques
- Discuss well integrity in multi-lateral wells and Christmas tree integrity
- Explain the principles of economic analysis including the methods to perform economic analysis of projects and detailed study of discounted cash flow models (DCF)
- Evaluate projects in the oil industry, analyze results and decision making processes and apply data interpretation, control and optimization methods in evaluation of petroleum projects

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 well integrity for field production operations managers, engineers, field supervisors and other technical staff who are involved in the design, installation, evaluation, completion of wells and production systems. Further, the course is suitable for petroleum, drilling, process and reservoir engineers and supervisors.

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.

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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\$ 5,500 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. David Berryman is a Senior Drilling Operations & Engineer with over 35 years of Offshore & Onshore experience within the Oil & Gas industries. He is an international expert in Stuck Pipe Prevention, Drilling & Petroleum Engineering, ERD Drilling, Well Service Operations, Well Test Design & Analysis, Well Composite, Well Construction, Well Completion, Well Integrity Management, Well Bore Analysis, Well Control & Blowout Prevention, Well Bore Integrity, High Pressure High Temperature (HPHT), Pulling Out of Hole (POOH), PWD Interpretation, Surface Logging, Drilling Optimization, Well Planning, Horizontal & Directional Drilling, Drill String Intensity & Design, Well Hole Cleaning, Mud-Logging, Downhole Vibration, Extended Reach Drilling, Torque & Drag Modelling, Pore Pressure Evaluation, Conductor Line Pressure Surveys and Chemical Tubing Cutting. He is also well-versed in Bow-Tie HSE Risk Management System, Hydraulics Management, Data Interpretation, Petroleum Data Management, Hydraulic Calculations, Safety Management System and Rig Operations and various Drilling softwares including Well plan and Compass (Landmark); DFG, Planit, Insite Anywhere (Halliburton); Discovery Well, Discovery Web (Kongsberg); Digital Well File (Petrolink) and Well View (Peloton).

Throughout his long career life, Mr. Berryman has worked for many international companies in the **Gulf of Mexico, Europe, Africa, Central Asia (Kazakhstan) the Middle East, Far East and the North Sea** such as **Marathon Oil UK, Talisman-Sinopec, BG Group, Sperry Drilling, Stavanger, BP, Hycalog, Camtest/Camco and Gearheart**. He had occupied various key positions as the **Drilling Manager, Drilling Engineer Supervisor, Drilling Supervisor, Drilling Operations Engineer, Applied Drilling Technology Engineer, Data Engineer, Mud Logger, Sales & Service Engineer and Downhole Gauge Engineer**. During this period, he has led the development of a **software solution** for real-time monitoring of drag whilst tripping in extended reach wells.

Mr. Berryman has a **Bachelor** degree in **Mining** from the **University of Leeds, UK**. Further, he has acquired **certifications** from the **IWCF for Combined Surface and Subsea Blow-Out Preventer Stack**, the **BOSIET**, the **UKCS** for Offshore Working and the **Prince2 Foundation for Project Management**. Further, he is a **Certified Instructor/Trainer** and has delivered and presented innumerable training courses 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 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to Well Integrity <i>Well Heads and Xmas Trees • Well Head Components • Integrity for Wells and Production Facilities • Xmas Tree Installation, Pressure Testing • Concepts of Well Integrity and Design</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Well Integrity Management – Leak Detection Techniques <i>High Frequency Ultrasound Tool • Decision Analysis Example for Leak Repair in the Tubing String</i>
1100 – 1230	Well Integrity Management – Leak Repairing Techniques <i>Chemicals • Straddle Packers with or without Expansion • Patches</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Well Barriers <i>Definitions • Types • Well Barrier Design • Selection and Construction Principles • High Risk Wells</i>
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0930	The Various Types of Well Intervention to Restore/Improve Well Performance & Their Impact in Well Head Equipment <i>Pressures • Pumping Rates • Fluid Used</i>
0930 – 0945	<i>Break</i>

0945 – 1100	The Various Types of Well Intervention to Restore/Improve Well Performance & Their Impact in Well Head Equipment (cont'd) Well Head Repairs and Well Integrity • Fracture and Wellhead Isolation and Troubleshooting
1100 – 1230	Flow Assurance Concerns and How They are Related to Loss of Production and Integrity Hydrates, Wax, Asphaltenes, Scale, Emulsions • Erosion and Corrosion
1230 – 1245	Break
1245 – 1420	Operations Integrity Management Project Management • Proper Planning • Resource Allocation • Performance Monitoring, Report and Review • Management of Change
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0930	Well Integrity in Well Intervention Procedures - Case history of Rig-up During Acid Job – Gas Injection Well Services Operating Procedures • Reporting Procedures • Record Keeping • Pressure Control Equipments Standers • Contingency Plan
0930 – 0945	Break
0945 – 1100	Improvement of Integrity Strategies Utilizing Imaging Technology Examples of Downhole Imaging to Formulate Well Integrity Strategies • Combination of Caliper and Video Imaging • Magnetic Wall Thickness Tool
1100 – 1230	Maximizing the Value of Old Wells in Mature Fields Utilizing Proper Well Integrity Techniques A Big Majority of Old Wells are Considered “Sick” Wells Due to Well Integrity Concerns. This is the Case of Many Mature Fields in the Middle East, which Suffer from Integrity Issues. Techniques and Methodologies are Explained to Maximize the Value of Mature Fields Enforcing Proper Integrity Management
1230 – 1245	Break
1245 – 1420	Well Integrity in Multi-Lateral Wells – A Challenge in Today’s Petroleum Industry Short Introduction to Multi-Lateral Wells • Water Influx in Dual Lateral Wells and Well Integrity Implications
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 – 0930	Group Exercise – Christmas Tree Integrity A Real Case Example of Christmas Tree Integrity is Discussed in the Course and the Participants are Asked to Prepare their Own Solution
0930 – 0945	Break
0945 – 1100	Group Exercise – Christmas Tree Integrity (cont'd) Each Participant Presents His/Her Solution of Christmas Tree Integrity in the Course and All Possible Solutions are Analyzed to Reach the Best Solution Agreed by All Participants
1100 – 1230	Principles of Economic Analysis Introduction of Methods to Perform Economic Analysis of Projects • Detailed Study of Discounted Cash Flow Models (DCF) • Examples Utilizing DCF Analysis to Evaluate Projects

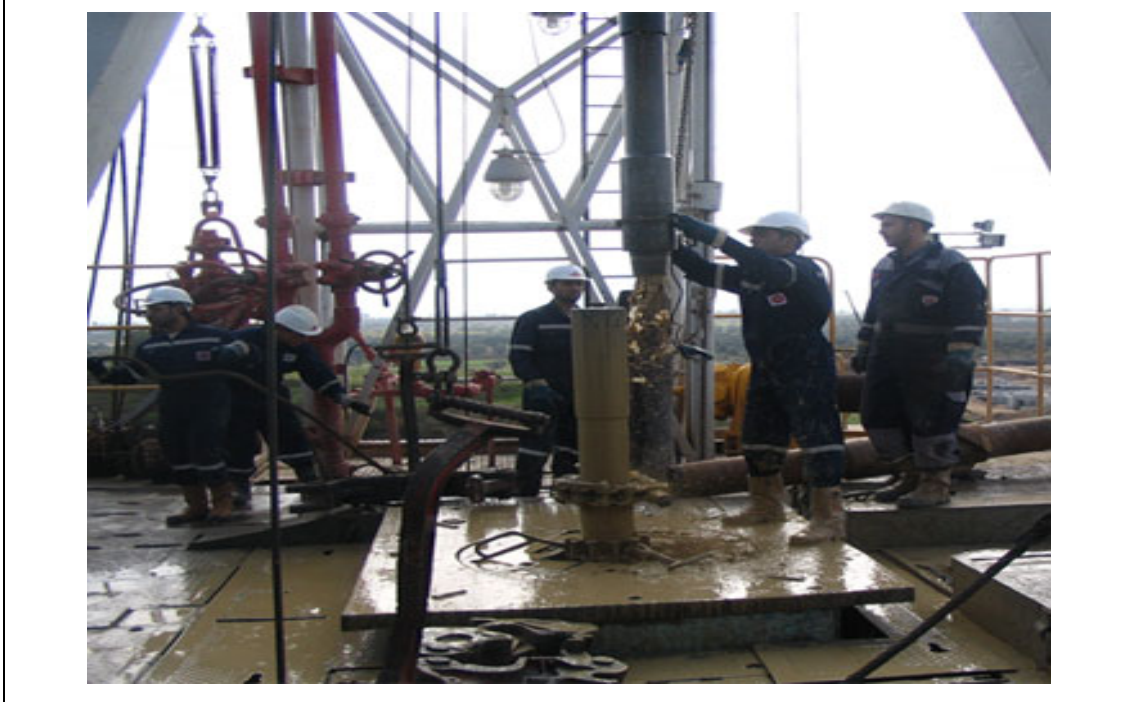
1230 – 1245	<i>Break</i>
1245 – 1420	<i>Evaluation of Projects in the Oil Industry</i> <i>Example Calculations and Evaluation of a Real Case Oilfield Development Scenario • Analysis of Results and Decision Making Processes • Data Interpretation, Control and Optimization Methods in Evaluation of Petroleum Projects</i>
1420 – 1430	<i>Recap</i>
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 0930	<i>Group Exercise – Economic Evaluation of Well Operations</i> <i>Perform an Exercise of a Complete Project Evaluation Utilizing Field Data for Well Operations</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<i>Group Exercise – Economic Evaluation of Well Operations (cont'd)</i> <i>Presentation of Results from Course Participants</i>
1100 – 1230	<i>Group Exercise – Economic Evaluation of Well Operations (cont'd)</i> <i>Analysis of Results</i>
1230 – 1245	<i>Break</i>
1245 – 1345	<i>Interactive Roundtable Discussions of Well Completions & Closing Remarks in Well Integrity Issues</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	<i>POST-TEST</i>
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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