

COURSE OVERVIEW DE0960
Well Composite, Construction Integrity & Completion

Course Title

Well Composite, Construction Integrity & Completion

Course Date/Venue

March 03-07, 2024/Vague 17 Meeting Room, Grand Hotel Stockholm, Stockholm, Sweden

Course Reference

DE0960

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 provides an overview of well integrity practices in the petroleum industry. It also analyzes the successes and failures of well integrity management from a series of real case studies in the oilfield and production facilities around the globe.



During the course, the participants will review and discuss the requirements of operators and regulatory authorities for integrity assurance in wells and production facilities. They will also gain knowledge in the completion techniques and design of wells in increasingly complex field developments to ensure well integrity and failure-free, long-life production.

At the end of the course, participants will go through a real case exercise where they will use “hands-on” methods to analyze a well integrity situation and evaluate its economic viability.

Course Objectives

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

- Increase the life and value of old wells with new and proven technology
- Ensure accurate data collection for reliable well completions and future well integrity
- Restore high productivity level of wells with innovative intervention techniques
- Ensure safe-fail health checks for long well integrity
- Define well barriers including the various types, well barrier design, selection and construction principles and high risk well
- Specify components and equipment needed for well integrity
- Identify best practices available to extend the life of equipment and production facilities including the operations integrity management and the well intervention procedures
- Apply basic design and analysis concepts for well integrity
- Design production systems which allow for gassy production, production with sand or solids, viscous production, and for other harsh environments
- Compare production systems to determine which system is most economically feasible using economic analysis

Who Should Attend

This course provides an overview of all significant aspects and considerations of well composite, construction integrity and completion 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.

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\$ 12,500 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), 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


Certificates are accredited by the following international accreditation organizations:-

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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.

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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.

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:



Mr. Sigve Hamilton, MSc, BSc, is a Senior Drilling & Petroleum Engineer with over 20 years of onshore & offshore experience within the Oil & Gas, Refinery and Petroleum industries. His specialization widely covers in the areas of Well Completion Design & Operations, Well Stimulation and Workover Planning, Well Composite, Construction Integrity & Completion, Advanced Drilling Operation Management, Drilling Fluid Technology, Directional & Horizontal Drilling, Drilling Optimization & Well Planning, Drilling Operation Management, Drilling Control & Operation, Drilling & Completion Design, Drilling & Stuck Pipe Prevention, Gas Lift Operations, Gas Lift Design & Technology, Production Technology, Production Logging, Well Logging, Well Test Analysis, Well Testing Procedures & Evaluation, Well Performance & Control, Wellhead Operations, Wellhead Design, Tubing Design & Casing, Well Production Optimization, Well Control & Blowout Prevention, Coiled Tubing Technology, Coring & Core Analysis, Core & Log Integration, Core Logging, Carbonate & Seismic Sequence Stratigraphy, Completion & Casing Design, CO₂ & Injection System, Fracture Characterization & Modelling, PVT Analysis, Fluid Mechanics, Fluid Dynamics, Water Shutoff, Water Injection Technology, Water Flooding, Petroleum Engineering, Petroleum Geology, Petroleum Physics, Petroleum Data Management, Petroleum Exploration, Reservoir Engineering & Management, Reservoir Simulation, Reservoir Geophysics, Naturally Fractured Reservoir, Streamline Simulation, Carbonate Rocks & Siliciclastic Rocks, Applied Rock Mechanics, Rock Physics, Sedimentology & Sequence Stratigraphy, Special Core Analysis, Artificial Lift Design, Enhanced Oil Recovery, Subsurface Production Operation, Rig Inspection, Logging, Hydraulic & Pneumatic, Heterogeneity Modelling for Reservoir Characterization, Prosper, 3D Geological Modelling, Property & Heterogeneity Modelling, IRAP RMS Streamlines, Grid Design & Upscaling for Reservoir Simulation and MBAL, Prosper and GAP Software,

During his career life, Mr. Hamilton held significant positions and dedication as the **Petroleum Engineer, Drilling Engineer, Petroleum/QHSE Engineer, Reservoir Engineer, Field Manager, Laboratory Engineer, Mudlogging Geologist, Geoscientist, Petroleum/Production Engineer & Consultant, Project Engineer/Risk Advisor, Petroleum Consultant/Advisor, Inspector/Study Leader and Senior Instructor/Lecturer** from various companies and universities such as the University of Akureyri (UNAK), Stavanger Offshore Technical School, Akademiet, Peteka, FMC Technologies, Gerson Lehrman Group, Ocean Rig, Oilfield Technology Group, Talisman, IOR Chemco, Geoservices, ResLab and Roxar.

Mr. Hamilton has a **Master's degree in Petroleum Engineering** and a **Bachelor's degree in Reservoir Engineering** from **The University of Stavanger, Norway**. Further, he is a **Certified Instructor/Trainer** and 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: Sunday, 03rd of March 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Integrity for Wells and Production Facilities - Introduction
0930 – 0945	Break
0945 – 1100	Concepts of Well Integrity and Design
1100 – 1230	Well Integrity Management – Leak Detection Techniques High Frequency Ultrasound Tool • Decision Analysis Example for Leak Repair in the Tubing String
1230 – 1245	Break
1245 – 1420	Well Integrity Management – Leak Repairing Techniques (cont'd) Chemicals • Straddle Packers with or without Expansion • Patches
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	Lunch & End of Day One

Day 2: Monday, 04th of March 2024

0730 – 0930	Well Barriers Definitions • Types • Well Barrier Design • Selection and Construction Principles • High Risk Wells
0930 – 0945	Break
0945 – 1100	Flow Assurance Concerns and How They are Related to Loss of Production and Integrity Hydrates, Wax, Asphaltenes, Scale, Emulsions • Erosion and Corrosion
1100 – 1230	Operations Integrity Management Project Management • Proper Planning • Resource Allocation • Performance Monitoring, Report and Review • Management of Change
1230 – 1245	Break
1245 – 1420	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
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	Lunch & End of Day Two

Day 3: Tuesday, 05th of March 2024

0730 – 0930	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
0930 – 0945	Break
0945 – 1100	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
1100 – 1230	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
1230 – 1245	Break
1245 – 1420	Selecting Proper Sand Control Techniques to Achieve Well Integrity Downhole and at Surface
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	Lunch & End of Day Three

Day 4: Wednesday, 06th of March 2024

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	Break
1245 – 1420	Evaluation of Projects in the Oil Industry 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
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	Lunch & End of Day Four

Day 5: Thursday, 07th of March 2024

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