COURSE OVERVIEW DE0810
Advanced Analytics in Oil & Gas

Course Title
Advanced Analytics in Oil & Gas



Course Date/Venue
Session 1: June 13-17, 2027/Meeting Plus 9, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: November 07-11, 2027/Meeting Plus 9, City Centre Rotana Doha Hotel, Doha, Qatar

3.0 CEUs (30 PDHs) AWARD

Course Reference
DE0810

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 advanced analytics in oil and gas. It covers the instrumented oil fields and the current situation in the upstream data analysis; the sampling, exploring, modifying, modelling and assessing (SEMMA) process; and the oilfield data management, oilfield exploration analysis and oilfield appraisal management.

During this interactive course, participants will learn the IoT revolution and IoT application in oil and gas fields; the smart sensors for smart oilfields and the blockchain basics; aggregating, analyzing and forecasting production from wells and reservoirs; the intelligent reservoir modeling workflow; the operational data model unlocks future value; and the operational data management platform for the key of digital transformation.

Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain a comprehensive knowledge on integration of core and log data
- Differentiate RCAL and SCAL lab core measurements
- Discuss reservoir properties from RCAL and its porosity, permeability, grain density and saturation as well as reservoir characteristics from SCAL and its relative permeability, capillary pressure, wettability and electrical properties
- Determine reservoir properties from log interpretation and compare it with core requirements
- Explain reservoir properties from log interpretation including its lithology, porosity, water saturation, cut-offs, net to gross ratio, averaging porosity and saturation
- Recognize core-log correlation and estimate permeability from log and core
- Define rock types and identify facies from core description and logs
- Determine ectrofacies and derive poro-perm relation as well as analyze well test and integrate with petrophysical analysis
- Employ reservoir modeling and upscaling, identify uncertainties and integrate the core
- Log and test data for reservoir modeling



*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 advanced analytics in oil and gas for all professionals working in the field of data analysis, oil and gas exploration, geology and reservoir modelling. The course is also beneficial for those who are involved in the upstream oil production.

Course Fee

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.

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

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(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. Shehab Al-Hamoud, MSc, BSc, is a **Senior Petroleum Engineer** with over **25 years** of **offshore** and **onshore** experience in the **Oil** & **Gas**, **Refinery** & **Petrochemical** industries. His wide expertise includes **Advanced Production Logging**, **Well Testing & Software** Application, **Wellhead & X-mass Tree**, **Completion Design**, **Well Integrity**, **Drilling & Workover** Operations, **Completion** Design & Fishing, **Well Control**, **Stuck Pipe** Principle & Practical, **Advanced Coiled Tubing** Operations & Fishing, **Rig less Solutions**, **Advanced Wire Line & Fishing**, **Well Completion Design & Performance** for Production Engineering, **SCSSV** Problems, **Well Testing** Operations, Well Intervention (**IWCFR**), **Workovers & Completions**, **Petroleum Risk & Decision** Analysis, **Well Testing** Analysis, **Engineering & Simulation**, **Reservoir Monitoring**, **Artificial Lift Design**, **Gas Operations**, **Oil & Gas Production**, **Well Cementing**, **Production Optimization**, **Production Logging** and **Project Evaluation** & **Economic Analysis**. He is currently the **Well Service & Field Operations Engineer/Supervisor** wherein he is in-charge of **Rig less** package operations, kill well, coiled tubing operations, acidizing and fracturing, slick line operations, well completion and exploratory well testing operations, safety and emergency exercises on site.

During his career life, Mr. Shehab has gained his practical and field experience through his various significant positions and dedication as the **Field Operations Engineer**, **Well Services Engineer**, **Completion & Well Service Supervisor**, **Rig less Package Supervisor**, **Completion & Workover Supervisor**, **Completion & Workover Supervisor, Well Site Supervisor** and **Senior Technical Train/Lecturer** from various international companies such as the AFPC, ADCO and SPC just to name a few.

Mr. Shehab has a **Bachelor's** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** a **Certified Petroleum Engineer**, held certificates on **IADC/ IWCF Well Control** and **H2S Training** and has delivered numerous trainings, courses, seminars, workshops and conferences internationally.

Training Methodology

Our courses employ an interactive, learner-centered methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

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 – 0945	***Instrumented Oil Fields***
0945 – 1000	*Break*
1000 – 1045	***Current Situation in the Upstream Data Analysis***
1045 – 1130	***The SEMMA Process-Sampling, Exploring, Modifying, Modeling & Assessing***
1130 – 1145	*Break*
1145 – 1230	***Oilfield Data Management***
1230 – 1315	***Oilfield Exploration Analysis***
1315 - 1420	***Oilfield Exploration Analysis (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0945	***Oilfield Appraisal Management***
0945 – 1000	*Break*
1000 – 1100	***Oilfield Appraisal Management (cont'd)***
1100 - 1200	***IoT Revolution***

1200 – 1215	*Break*
1215 – 1420	***IoT Revolution (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0945	***IoT Application in Oil & Gas Fields***
0945 – 1000	*Break*
1000 – 1100	***IoT Application in Oil & Gas Fields (cont'd)***
1100 - 1200	***Smart Sensors for Smart Oilfields***
1200 – 1215	*Break*
1215 – 1420	***Smart Sensors for Smart Oilfields (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0945	***Blockchain Basics***
0945 – 1000	*Break*
1000 – 1100	***Blockchain Basics (cont'd)***
1100 - 1200	***Aggregate, Analyze & Forecast Production from Wells & Reservoirs***
1200 – 1215	*Break*
1215 – 1350	***Aggregate, Analyze & Forecast Production from Wells & Reservoirs (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0845	***Intelligent Reservoir Modeling Workflow***
1015 – 1030	*Break*
1030 - 1140	***Intelligent Reservoir Modeling Workflow (cont'd)***
1140 – 1200	***Defining the Operational Data Model Unlocks Future Value***
1200 – 1215	*Break*
1215 – 1330	***The Operational Data Management Platform is the Key of Digital Transformation***
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

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