COURSE OVERVIEW DE0797
Correlation Methods

Course Title
Correlation Methods

Course Date/Venue
Session 1: April 27-May 01, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: September 21-25, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Course Reference
DE0797

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 correlation methods. It covers the origin/occurrence, definition and formation of kerogen and principal forms of petroleum; the unconventional resource; the different rock types; the sedimentary structure; the structural geology; the petroleum process; and the petroleum systems that include oil and gas source rocks, oil and gas cap rocks, oil and gas reservoir rocks and rock property analysis.

During this interactive course, participants will learn the exploration techniques for petroleum; the prospect generation and evaluation, well planning process and drilling methods and techniques; the well site geology; the coring operations for core samples and core analysis; the petrophysics as well as principals and uses of logging tools; the petrophysics evaluation; the petroleum reserves, resources, reservoir description and characterization; the data management and quality control; and the multidisciplinary integration of all available data.

Course Objectives

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

- Apply and gain systematic techniques and methodologies on correlation methods
- Discuss petroleum covering its origin/occurrence, definition and formation of kerogen and principal forms of petroleum
- Explain unconventional resource comprising of shale as a hydrocarbon source and reservoir, unconventional oil and gas and economics
- Identify different rock types that include igneous rocks, metamorphic rocks and sedimentary rocks
- Illustrate sedimentary structure including rock cycling, sedimentary basins and modeling and sedimentary facies and modeling
- Discuss structural geology covering primary structures, stresses/strains and their relations to rock deformation and secondary structures
- Carryout petroleum process covering origin and formation, migration and accumulation
- Recognize petroleum systems that include oil and gas source rocks, oil and gas cap rocks, oil and gas reservoir rocks and rock property analysis
- Employ exploration techniques for petroleum including prospect generation and evaluation
- Illustrate well planning process and drilling methods and techniques
- Describe well site geology comprising of cutting evaluation, hydrocarbon and gas shows evaluation, mud logging, picking formation tops and reservoir unit
- Apply coring operations for core samples and core analysis
- Identify petrophysics as well as principals and uses of logging tools
- Evaluate petrophysics, prepare logging program and apply procedures and guidelines for electric logs correlation
- Discuss petroleum reserves, resources, reservoir description and characterization
- Apply data management and quality control and carryout multidisciplinary integration of all available data

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 correlation methods for petroleum industry professionals such as petroleum engineers, drilling engineers, geologists and geophysicists involved in the important activities of exploration, reservoir evaluation, development and management, who require invaluable skills in the application of the techniques described for the successful exploration and production of oil and gas.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- 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.

- 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.

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. Steve Ehrenberg, PhD, MSc, BSc, is a **Senior Geologist & Reservoir Engineer** with **45 years** of extensive experience within the **Oil** & **Gas**, **Petrochemical** and **Refinery** industries. His wide experience covers in the areas of **Core** & **Log Integration**, **Water Saturation**, **Coring** & **Core Analysis**, **Special Core Analysis**, **Log** Interpretation, Cased-Hole Logging, **Correlation** Methods, **Core Calibration**, **Core Analysis**, Core-to-Log Data Integration (**SCAL**), **Wireline** Logging, **Mud** Logging, **Cased Hole** Logging, **Production** Logging, **Well Logging**, **Reservoir** Management, **Reservoir** Appraisal & Development, **Carbonate Reservoir** Management, **Fractured Reservoirs** Evaluation & Management, **Naturally Fractured Reservoir**, Integrated **Carbonate Reservoir** Characterization, **Geological Modelling**, **Reservoir Characterization**, **Geomodelling**, Development **Geology**, **Petroleum Geology**, **Exploration Production**, **Structural Geology**, **Wellsite Geology**, Analytic Modelling Methods, **Sedimentary Geology**, **Geophysics**, **Geophysical Exploration**, **Reservoir** Engineering, **Reservoir** Engineering Applications, **Reservoir** Engineering & Stimulation, **Reservoir** Characterization, **Clastic Reservoir**, **Carbonate Reservoir Petrology**, Subsurface Facies Analysis, **Borehole Images, Geophysical Methods**, **Oil & Gas Exploration**, **Marine & Petroleum Geology**, **Reservoir Performance** Using Classical Methods, **Fractured Reservoir** Evaluation & Management, **Reservoir** Surveillance & Management, **Reservoir Monitoring**, , **Reservoir Volumetrics**, **Water Drive Reservoir**, **Reservoir Evaluation**, **Well Surveillance**, **Well Testing**, **Well Testing** & Oil Well Performance, Well Log Interpretation (**WLI**), Rock Physics & Seismic Data, **Formation Evaluation**, **Well Testing** & Data Interpretation, **Pore Pressure** Prediction and **Oil & Gas Reserves Estimations**, Well Workover Supervision, Description and Prediction of **Reservoir Quality**, **Sequence Stratigraphy** of Carbonate Systems and Introductory Geology.

During his career life, Dr. Ehrenberg held significant positions and dedication as **Consultant**, **Professor**, **Senior Reservoir Geologist**, **Senior Geologist**, **Research Geologist**, **Associate Professor**, **Assistant Professor** and **Senior Instructor/Trainer** from various international companies and universities such as the Badley Ashton & Associates Ltd., Khalifa University of Science and Technology, Sultan Qaboos University, PanTerra Geoconsultants B.V, UAE University, Statoil, Stavanger, Shell Development Company and Northern Illinois University.

Dr. Ehrenberg has a **PhD**, **Master's** and **Bachelor's** degree in **Geology** from the **University of California**, **USA** and **Occidental College**, **USA**, respectively. Further, he is a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**), a **Certified Instructor/Trainer** and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.

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$ 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 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 – 0930	***Introduction*** *Objectives & Outlines of the Course • Free Discussion*
0930 – 0945	*Break*
0945 – 1100	***Introduction to Petroleum*** *Petroleum Definition • Petroleum (Origin/Occurrence) • Kerogen (Definition, Formation) • Principal Forms of Petroleum*
1100 – 1230	***Unconventional Resource*** *Definitions • Shale as a Hydrocarbon Source & Reservoir • Unconventional Gas & Oil • Economics*
1230 – 1245	*Break*
1245 – 1330	***Rock Types*** *Igneous Rocks • Metamorphic Rocks • Sedimentary Rocks (Clastic, Carbonate)*
1330 - 1420	***Sedimentary Structure*** *Rock Cycling*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Sedimentary Basins & Modeling***
0830 – 0930	***Sedimentary Facies & Modeling***
0930 – 0945	*Break*
0945 – 1100	***Structural Geology*** *Primary Structures • Stresses/Strains & their Relations to Rock Deformation • Secondary Structures (Faults & Fractures) • Secondary Structures (Folds & Unconformities)*
1100 – 1230	***Petroleum Process*** *Origin & Formation • Migration • Accumulation*
1230 – 1245	*Break*
1245 – 1420	***Petroleum Systems*** *Oil & Gas Source Rocks • Oil & Gas Cap Rocks • Oil & Gas Reservoir Rocks • Rock Property Analysis*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Exploration Techniques for Petroleum*** *Geological Concept & Surface Geology • Geophysical Methods • Geochemical Methods • Stratigraphic Methods*
0830 – 0930	***Prospect Generation & Evaluation*** *Terms & Definition • Play - Prospect Resource Assessment Procedure • Risk Assessment & Risk Management • Risk & Uncertainty of Exploration & Production Processes • Risk Analysis & Uncertainty in Relation to Exploration Prospects*
0930 – 0945	*Break*
0945 – 1100	***Well Planning Process***
1100 – 1230	***Drilling Methods & Techniques*** *Vertical Wells • Deviated Wells & Horizontal Wells*
1230 – 1245	*Break*
1245 – 1420	***Well Site Geology*** *Cutting Evaluation • Hydrocarbon & Gas Shows Evaluation • Mud Logging • Picking Formation Tops & Reservoir Unit*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Coring Operations*** *Core Samples (Conventional Coring, Sidewall Coring) • Core Analysis*
0830 – 0930	***Petrophysics*** *Wireline Operations • Logging While Drilling Operations*
0930 – 0945	*Break*
0945 – 1100	***Principals & Uses of Logging Tools*** *Overview on Lithology Logs • Overview on Porosity Logs • Overview on Saturation Logs*
1100 – 1230	***Petrophysics Evaluation*** *Preparing Logging Program • Electric Logs Correlation (Procedure & Guidelines) • Quick Look Interpretation • Full Log Interpretation*
1230 – 1245	*Break*

1245 – 1420	***Application & Workshop***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Petroleum Reserves & Resources*** *Definition • Reserves/Resource Categorization • Estimations of Reserves/Resource • Hydrocarbons-in-Place Calculations*
0830 – 0930	***Reservoir Description & Characterization*** *Definition • Workflow • Challenges of Reservoir Description & Characterization*
0930 – 0945	*Break*
0945 – 1100	***Data Management & Quality Control***
1100 – 1230	***Multidisciplinary Integration of All Available Data***
1230 – 1245	*Break*
1245 – 1345	***Application, Workshop & Case Studies***
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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