

**COURSE OVERVIEW DE0797-4D**  
**Correlation Methods**

**Course Title**

Correlation Methods

**Course Date/Venue**

Session 1: August 05-08, 2024/ Al Aziziya Hall,  
 The Proud Hotel Al Khobar, Al  
 Khobar, KSA

Session 2: November 04-07, 2024/ Boardroom  
 1, Elite Byblos Hotel Al Barsha,  
 Sheikh Zayed Road, Dubai, UAE



**Course Reference**

DE0797-4D

**Course Duration/Credits**

Four days/2.4 CEUs/24 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 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 **2.4 CEUs** (Continuing Education Units) or **24 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.



### 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. Saber Hussein** is a **Senior Geophysicist** with **over 35 years** of extensive experience within the **Oil, Gas and Petrochemical** Industries. His specialization widely covers in the areas of **Basic Geology, Correlation Methods, Coring & Core Analysis, Core Handling, Overburden Effects, Conventional Data, Archie Equations, Mercury Injection, Rock Mechanics, Petrophysical Techniques, Geological, Geophysical & Petrophysical Evaluations, Stratigraphy & Sedimentology, Subsurface Maps, Geological Cross-Sections, Drilling Fluids, Drilling Data Analysis, Mud Logging, Porosity, Permeability, Basin Analysis, Reservoir Characterization, Facies Analysis & Sequence Stratigraphy, Structural Geology, Wellsite, Slick Line Operation and Fracture Characterization**. Further, he is also well-versed in rock properties, seismic analysis, petroleum risk and decision, play analysis and risk assessment. Currently, he is the **Exploration Division General Manager and Board Member** of one of the leading Petrochemical Plant in the Middle East.

During his career life, Mr. Saber has gained his practical and field experience through his various significant position and dedication as the **Exploration Division General Manager, General Manager, Senior Geophysicist, Geophysicist, Expert Mud Logging Assistant and Geologist**. He is also a **Board Member of SUCO Strategy Plan Committee**, wherein he was responsible for supervision of **all Geological, Geophysical and Petro physical Operation activities** as well as **Data Processing** and supervising all activities pertaining to the software and hardware of work station.

Mr. Saber has a **Bachelor's** degree in **Geology**. Further, he is a **Certified Instructor/Trainer** and an active member of Egyptian Petroleum Exploration Society (**EPEX**), American Association of Petroleum Geologists (**AAPG**), GSE and the Petroleum and Scientific Professional Syndicate. He has further delivered numerous trainings, 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\$ 6,750** 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 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 &amp; Coffee</i>
0800 - 0815	<i>Welcome &amp; Introduction</i>
0815 - 0830	<b>PRE-TEST</b>
0830 - 0930	<b>Introduction</b> <i>Objectives &amp; Outlines of the Course • Free Discussion</i>
0930 - 0945	<i>Break</i>
0945 - 11045	<b>Introduction to Petroleum</b> <i>Petroleum Definition • Petroleum (Origin/Occurrence) • Kerogen (Definition, Formation) • Principal Forms of Petroleum</i>
1045 - 1145	<b>Unconventional Resource</b> <i>Definitions • Shale as a Hydrocarbon Source &amp; Reservoir • Unconventional Gas &amp; Oil • Economics</i>
1145 - 1230	<b>Rock Types</b> <i>Igneous Rocks • Metamorphic Rocks • Sedimentary Rocks (Clastic, Carbonate)</i>
1230 - 1245	<i>Break</i>
1245 - 1330	<b>Sedimentary Structure</b> <i>Rock Cycling</i>
1330 - 1420	<b>Sedimentary Basins &amp; Modeling</b>
1420 - 1430	<b>Recap</b> <i>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</i>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2**

0730 - 0830	<b>Sedimentary Facies &amp; Modeling</b>
0830 - 0930	<b>Structural Geology</b> <i>Primary Structures • Stresses/Strains &amp; their Relations to Rock Deformation • Secondary Structures (Faults &amp; Fractures) • Secondary Structures (Folds &amp; Unconformities)</i>
0930 - 0945	<i>Break</i>
0945 - 1100	<b>Petroleum Process</b> <i>Origin &amp; Formation • Migration • Accumulation</i>
1100 - 1145	<b>Petroleum Systems</b> <i>Oil &amp; Gas Source Rocks • Oil &amp; Gas Cap Rocks • Oil &amp; Gas Reservoir Rocks • Rock Property Analysis</i>

1145 - 1230	<b>Exploration Techniques for Petroleum</b> Geological Concept & Surface Geology • Geophysical Methods • Geochemical Methods • Stratigraphic Methods
1230 - 1245	Break
1245 - 1330	<b>Prospect Generation &amp; Evaluation</b> 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
1330 - 1420	<b>Prospect Generation &amp; Evaluation</b> 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
1420 - 1430	<b>Recap</b> 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

0730 - 0830	<b>Well Planning Process</b>
0830 - 0930	<b>Drilling Methods &amp; Techniques</b> Vertical Wells • Deviated Wells & Horizontal Wells
0930 - 0945	Break
0945 - 1045	<b>Well Site Geology</b> Cutting Evaluation • Hydrocarbon & Gas Shows Evaluation • Mud Logging • Picking Formation Tops & Reservoir Unit
1045 - 1145	<b>Coring Operations</b> Core Samples (Conventional Coring, Sidewall Coring) • Core Analysis
1145 - 1230	<b>Petrophysics</b> Wireline Operations • Logging While Drilling Operations
1230 - 1245	Break
1245 - 1315	<b>Principals &amp; Uses of Logging Tools</b> Overview on Lithology Logs • Overview on Porosity Logs • Overview on Saturation Logs
1315 - 1420	<b>Petrophysics Evaluation</b> Preparing Logging Program • Electric Logs Correlation (Procedure & Guidelines) • Quick Look Interpretation • Full Log Interpretation
1420 - 1430	<b>Recap</b> 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

0730 - 0830	<b>Application &amp; Workshop</b>
0830 - 0930	<b>Petroleum Reserves &amp; Resources</b> Definition • Reserves/Resource Categorization • Estimations of Reserves/Resource • Hydrocarbons-in-Place Calculations
0930 - 0945	Break



0945 - 1045	<b>Reservoir Description &amp; Characterization</b> <i>Definition • Workflow • Challenges of Reservoir Description &amp; Characterization</i>
1045 - 1130	<b>Data Management &amp; Quality Control</b>
1130 - 1230	<b>Multidisciplinary Integration of All Available Data</b>
1230 - 1245	<i>Break</i>
1245 - 1345	<b>Application, Workshop &amp; Case Studies</b>
1345 - 1400	<b>Course Conclusion</b> <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course</i>
1400 - 1415	<b>POST-TEST</b>
1415 - 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch &amp; 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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