COURSE OVERVIEW DE0329
Exploration Geology

Course Title
Exploration Geology

Course Date/Venue
Session 1: July 13-17, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: November 23-27, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Course Reference
DE0329

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 exploration geology. It covers the petroleum industry and the fundamental aspects of full life cycle of oil and gas industry; the oil and gas exploration in international business; the primary and secondary structures and petroleum relationship; the rock types and petroleum relationship covering igneous rocks, sedimentary rocks and metamorphic rocks; and the petroleum systems process including its origin, formation, migration and accumulation.

During this interactive course, participants will learn the petroleum systems elements that include oil and gas source rocks, oil and gas cap rocks and oil and gas consisting of surface geology, geophysical methods, geochemical methods and drilling methods; the prospect generation and evaluation including its definition, the play concept, subsurface integration, generation delineation plan and prospect and play evaluation process; the formation evaluation including well-sitting evaluation, petrophysics evaluation and core analysis evaluation; and reservoir characterization through its definition and workflow.

Course Objectives

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

- Apply and gain an in-depth knowledge on exploration geology
- Discuss petroleum industry including the fundamental aspects of full life cycle of oil and gas industry and the oil and gas exploration in international business
- Identify the primary and secondary structures and petroleum relationship
- Recognize the rock types and petroleum relationship covering igneous rocks, sedimentary rocks and metamorphic rocks
- Explain petroleum systems process including its origin and formation, migration and accumulation
- Identify petroleum systems elements covering oil and gas source rocks, oil and gas cap rocks and oil and gas reservoirs
- Apply exploration methods for oil and gas consisting of surface geology, geophysical methods, geochemical methods and drilling methods
- Explain prospect generation and evaluation including its definition, the play concept, subsurface integration, generation delineation plan and prospect and play evaluation process
- Carryout formation evaluation including well-sitting evaluation, petrophysics evaluation and core analysis evaluation
- Characterize reservoir through its definition and workflow

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 exploration geology for petroleum industry professionals (petroleum engineers, drilling engineers, geologists and geophysicists) involved in the important activities of reservoir evaluation, development and management.

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

Certificates are accredited by the following international accreditation organizations: -

- 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:

Mr. Saber Hussein is a **Senior Geologist** with **over 40 years** of extensive experience within the **Oil & Gas** and **Petrochemical** Industries. His specialization widely covers in the areas of **Petroleum & Exploration Geology**, **Tectonics & Structural** Development, **Clastic & Carbonate Reservoir**, **Oil & Gas Exploration**, **Structural Geology** Operation, **Well Logs** Interpretation, **Formation** Evaluation, **Well Site Geology**, **Geological** Operations, **Well Sitting & Operation 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**, **Geology General Manager**, **Geological Studies Assistant General Manager, Senior Geophysicist**, **Geophysicist**, **Geological Operations Department Head**, **Geological Operations Section Head**, **Mud Logger**, **Expert Mud Logging Assistant, Geologist and Senior Instructor/Trainer**. 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$ 8,500 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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 to Petroleum Industry*** *Fundamental Aspects of Full Life Cycle of Oil and Gas Industry ● Overview Oil & Gas Exploration in International Business*
0930 – 0945	*Break*
0945 – 1030	***Structures & Petroleum Relationship*** *Primary Structures*
1030 – 1230	***Structures & Petroleum Relationship (cont'd)*** *Secondary Structures*
1230 – 1245	*Break*
1245 – 1420	***Structures & Petroleum Relationship (cont'd)*** *Secondary Structures (cont'd)*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Rock Types & Petroleum Relationship*** *Igneous Rocks ● Sedimentary Rocks*
0930 – 0945	*Break*
0945 – 1100	***Rock Types & Petroleum Relationship (cont'd)*** *Metamorphic Rocks*
1100 – 1230	***Petroleum Systems Process*** *Origin & Formation ● Migration*

1230 – 1245	*Break*
1245 – 1420	***Petroleum Systems Process (cont'd)*** *Accumulation*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Petroleum Systems Elements*** *Oil & Gas Source Rocks ● Oil & Gas Cap Rocks*
0930 – 0945	*Break*
0945 – 1100	***Petroleum Systems Elements (cont'd)*** *Oil & Gas Reservoirs*
1100 – 1230	***Exploration Methods for Oil & Gas*** *Surface Geology ● Geophysical Methods*
1230 – 1245	*Break*
1245 – 1420	***Exploration Methods for Oil & Gas (cont'd)*** *Geochemical Methods ● Drilling Methods*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Prospect Generation & Evaluation*** *Definition ● The Play Concept ● Subsurface Integration*
0930 – 0945	*Break*
0945 – 1030	***Prospect Generation & Evaluation (cont'd)*** *Generation Delineation Plan*
1030 – 1130	***Prospect Generation & Evaluation (cont'd)*** *Prospect & Play Evaluation Processes*
1130 – 1230	*Break*
1230 – 1245	***Formation Evaluation*** *Well-Sitting Evaluation*
1245 – 1420	***Formation Evaluation (cont'd)*** *Petrophysics Evaluation*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Formation Evaluation (cont'd)*** *Core Analysis Evaluation*
0930 – 0945	*Break*
0945 – 1100	***Reservoir Characterization*** *Definition*
1100 – 1230	***Reservoir Characterization (cont'd)*** *Workflow*

1230 – 1245	*Break*
1245 – 1345	***Reservoir Characterization (cont'd)*** *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 highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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