



## COURSE OVERVIEW DE0683 Carbonates Geology Applied to Conventional & Unconventional Plays

### Course Title

Carbonates Geology Applied to Conventional & Unconventional Plays

### Course Date/Venue

Session 1: January 05-09, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Session 2: July 07-11, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE



### Course Reference

DE0683

### 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 carbonate geology and petrophysics including field trips. It covers basic nature of carbonates and carbonate facies models; the basic concepts of sequence stratigraph; the relationship of stratigraphic patterns to changes in subsidence rates; the sequence stratigraphic models including the ramp, the rimmed shelf, the escarpment margin, the isolated platform and the mixed carbonate-siliciclastic shelf; and the characteristics of carbonate pore systems.



During this interactive course, participants will learn the diagenesis, porosity evolution and porosity distribution at the time of burial; the fate of early-formed porosity during burial; the potential value of dolomitization including by hydrothermal processes; the problem of H<sub>2</sub>S in carbonate reservoirs; the natural fractures in carbonates case and discuss histories and exercises from the Americas, Europe, and Asia; and the exploration and exploitation strategies in carbonate and mixed terrains.

### Course Objectives

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

- Apply and gain an in-depth knowledge on carbonate geology
- Discuss basic nature of carbonates and carbonate facies models
- Review basic concepts of sequence stratigraph
- Explain the relationship of stratigraphic patterns to changes in subsidence rates
- Explain sequence stratigraphic models including the ramp, the rimmed shelf, the escarpment margin, the isolated platform and the mixed carbonate-siliciclastic shelf
- Describe characteristics of carbonate pore systems
- Carryout diagenesis, porosity evolution and porosity distribution at the time of burial
- Explain the fate of early-formed porosity during burial
- Recognize the potential value of dolomitization including by hydrothermal processes
- Discuss the problem of H<sub>2</sub>S in carbonate reservoirs
- Illustrate natural fractures in carbonates case and discuss histories and exercises from the Americas, Europe, and Asia
- Perform exploration and exploitation strategies in carbonate and mixed terrains

### 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 carbonates geology for geoscientists.

### 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 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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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.
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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.

### 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:



**Dr. Hesham Abdou, PhD, MSc, BSc, is a Senior Drilling & Petroleum Engineer with over 35 years of integrated industrial and academic experience as a University Professor. His specialization widely covers in the areas of Drilling & Completion Technology, Directional Drilling, Horizontal & Sidetracking, Drilling Operation Management, Drilling & Production Equipment, ERD Drilling & Stuck Pipe Prevention, Natural & Artificial Flow Well Completion, Well Testing Procedures & Evaluation, Well Performance, Coiled Tubing Technology, Oil Recovery Methods Enhancement, Well Integrity Management, Well Casing & Cementing, Acid Gas Removal, Heavy Oil Production & Treatment Techniques, Crude Oil Testing & Water Analysis, Crude Oil & Water Sampling Procedures, Equipment Handling Procedures, Crude & Vacuum Process Technology, Gas Conditioning & Processing, Cooling Towers Operation & Troubleshooting, Sucker Rod Pumping, ESP & Gas Lift, PCP & Jet Pump, Pigging Operations, Electric Submersible Pumps (ESP), Progressive Cavity Pumps (PCP), Water Flooding, Water Lift Pumps Troubleshooting, Water System Design & Installation, Water Networks Design Procedures, Water Pumping Process, Pipelines, Pumps, Turbines, Heat Exchangers, Separators, Heaters, Compressors, Storage Tanks, Valves Selection, Compressors, Tank & Tank Farms Operations & Performance, Oil & Gas Transportation, Oil & Gas Production Strategies, Artificial Lift Methods, Piping & Pumping Operations, Oil & Water Source Wells Restoration, Pump Performance Monitoring, Rotor Bearing Modelling, Hydraulic Repairs & Cylinders, Root Cause Analysis, Vibration & Condition Monitoring, Piping Stress Analysis, Amine Gas Sweetening & Sulfur Recovery, Heat & Mass Transfer and Fluid Mechanics.**

During his career life, Dr. Hesham held significant positions and dedication as the **General Manager, Petroleum Engineering Assistant General Manager, Workover Assistant General Manager, Workover Department Manager, Artificial Section Head, Oil & Gas Production Engineer and Senior Instructor/Lecturer** from various companies and universities such as the Cairo University, Helwan University, British University in Egypt, Banha University and Agiba Petroleum Company.

Dr. Hesham has a **PhD and Master** degree in **Mechanical Power Engineering** and a **Bachelor** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** and a **Peer Reviewer**. Dr. Hesham is a member of Egyptian Engineering Syndicate and the Society of Petroleum Engineering. Moreover, he has published technical papers and journals and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.

**Course Fee**

**US\$ 8,000** per Delegate + **VAT**. 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	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<b><i>Basic Nature of Carbonates</i></b>
0930 – 0945	<i>Break</i>
0945 – 1130	<b><i>Carbonate Facies Models</i></b>
1130 – 1230	<b><i>Basic Concepts of Sequence Stratigraph</i></b>
1230 – 1245	<i>Break</i>
1245 – 1420	<b><i>Basic Concepts of Sequence Stratigraph (cont'd)</i></b>
1420 – 1430	<b>Recap</b>
1430	<i>End of Day One</i>

#### **Day 2**

0730 – 0930	<b><i>Relationship of Stratigraphic Patterns to Changes in Subsidence Rates</i></b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b><i>Sequence Stratigraphic Models Including the Ramp, the Rimmed Shelf, the Escarpment Margin, the Isolated Platform, &amp; the Mixed Carbonate-Siliciclastic Shelf</i></b>
1200 – 1230	<b><i>Characteristics of Carbonate Pore Systems</i></b>
1230 – 1245	<i>Break</i>
1245 – 1420	<b><i>Characteristics of Carbonate Pore Systems (cont'd)</i></b>
1420 – 1430	<b>Recap</b>
1430	<i>End of Day Two</i>

#### **Day 3**

0730 – 0930	<b><i>Diagenesis, Porosity Evolution, &amp; Porosity Distribution at the Time of Burial</i></b>
0930 – 0945	<i>Break</i>
0945 – 1130	<b><i>The Fate of Early-Formed Porosity During Burial</i></b>
1130 – 1230	<b><i>The Potential Value of Dolomitization, Including by Hydrothermal Processes</i></b>
1230 – 1245	<i>Break</i>
1245 – 1420	<b><i>The Potential Value of Dolomitization, Including by Hydrothermal Processes (cont'd)</i></b>
1420 – 1430	<b>Recap</b>
1430	<i>End of Day Three</i>



**Day 4**

0730 – 0930	<i>The Problem of H2S in Carbonate Reservoirs</i>
0930 – 0945	Break
0945 – 1130	<i>The Problem of H2S in Carbonate Reservoirs (cont'd)</i>
1130 – 1230	<i>Natural Fractures in Carbonates</i>
1230 – 1245	Break
1245 – 1420	<i>Natural Fractures in Carbonates (cont'd)</i>
1420 – 1430	<b>Recap</b>
1430	<i>End of Day Four</i>

**Day 5**

0730 – 0930	<i>Case Histories &amp; Exercises from the Americas, Europe, &amp; Asia</i>
0930 – 0945	Break
0945 – 1100	<i>Case Histories &amp; Exercises from the Americas, Europe, &amp; Asia (cont'd)</i>
1100 – 1230	<i>Exploration &amp; Exploitation Strategies in Carbonate &amp; Mixed Terrains</i>
1230 – 1245	Break
1245 – 1345	<i>Exploration &amp; Exploitation Strategies in Carbonate &amp; Mixed Terrains (cont'd)</i>
1345 – 1400	<b>Course Conclusion</b>
1400 – 1415	<b>POST-TEST</b>
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>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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