COURSE OVERVIEW DE0802
Core Analysis for Reservoir Characterization

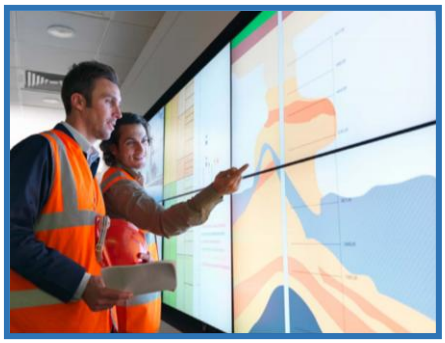
Course Title
Core Analysis for Reservoir Characterization

Course Date/Venue
Please see page 3

Course Reference
DE0802

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.

More than three-quarters of current additions to the world's reserves come from better management of existing reserves. Core-based measurements offer the most tangible and direct means of determining critical reservoir parameters. Core analysis can play a vital role in field equity or unitization and is often considered to be the ground truth to which other measurements are compared (e.g., wireline logging). Evidence of hydrocarbon presence, reservoir storage capacity, and flow capacity along with the distribution of porosity, permeability, and geological descriptive information can be directly obtained from core material.

Core analysis is the fundamental foundation of reservoir characterization. Using a multidisciplinary approach, managerial, drilling, geological, and engineering requirements should all be considered. Design and application of core analysis is dependent on the coring method, the coring fluid systems, core handling at the wellsite, and core preservation techniques. Core analysis provides the building blocks for understanding fluid flow, ultimate recovery, and displacement efficiencies. Over 30 percent of the classroom time will be dedicated to data analysis, workshops, and case studies.

This course is designed to provide and up-to-date overview on core analysis for reservoir characterization. It covers the core analysis value and the coring process; the sample preparation and basic data acquisition (routine core analysis); the rock properties used in reservoir modelling and reservoir simulation models; the pre-screening of material both whole core and samples for SCAL testing; the interpretation and validation of SCAL report; and reviewing a quality control process.

By the end of the course, participants will be able to design a SCAL program with regard to the given objectives; apply all the standard SCAL techniques that covers the electrical properties, capillary pressure, NMR, relative permeability and wettability; and illustrate data quality control and interpretation including the integration of petrophysical results.

Course Objectives

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

- Apply and gain an in-depth knowledge on core analysis for reservoir characterization
- Discuss the core analysis value and the coring processes
- Carryout sample preparation and basic data acquisition (routine core analysis)
- Identify rock properties used in reservoir modelling and reservoir simulation models
- Employ pre-screening of material both whole core and samples for SCAL testing
- Interpret and validate a SCAL report and review a quality control process
- Design a SCAL program with regard to given objectives
- Implement all the standard SCAL techniques that covers the electrical properties, capillary pressure, NMR, relative permeability and wettability
- Illustrate data quality control and interpretation including the integration of petrophysical results

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 coring and core analysis for petrophysicists, reservoir engineers, exploration and development geologists, core and log analysts, geophysicists, drilling and completion engineers, and oil company research and development staff.

Course Date/Venue

Session(s)	Date	Venue
1	April 19-23, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
2	June 21-25, 2026	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
3	August 02-06, 2026	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
4	October 04-08, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
5	November 16-20, 2026	Ruben Boardroom, The Rubens at The Palace, Buckingham Palace Road, London, United Kingdom
6	January 31-February 04, 2027	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain
7	March 14-18, 2027	Meeting Room 4, Four Seasons Hotel Cairo at Nile Plaza, Corniche El Nil, Garden City, Cairo, Egypt

Course Fee

Doha	**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.
Istanbul	**US$ 8,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**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.
London	**US$ 8,800** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Seville	**US$ 8,800** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Cairo	**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 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.

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:

Mr. Stan Constantino, MSc, BSc, is a **Senior Petroleum & Reservoir Engineer** with over **30 years** of **Offshore & Onshore** extensive experience within the **Oil**, **Gas & Petroleum** industries**.** His area of expertise include **Reserves & Resources**, **Reserves Estimation & Uncertainty**, **Reservoir** Characterization, **Unconventional Resource & Reserves** Evaluation, **Oil & Gas Reserves** Estimation, Methods for **Aggregation of Reserves & Resources**, **Fractured Reservoir** Classification & Evaluation, **Sequence Stratigraphy**, **Petrophysics & Rock** Properties, **Seismic** Technology, **Geological** Modelling, **Water Saturation**, **Crude Oil & Natural Gas** Demand, **Exploration Agreements & Financial** Modelling, **Seismic Survey** Evaluation, **Exploration Well** Identification, **Field Production** Operation, **Field Development** Evaluation, Crude Oil Marketing, **Core & Log Data** Integration, **Core Logging**, Advanced **Core & Log Integration**, **Well Logs & Core Analysis**, Advanced Petrophysics/Interpretation of **Cased Hole Logs**, **Cased Hole Formation Evaluation**, **Cased Hole Formation** Evaluation, **Cased Hole Evaluation**, **Cased-Hole Logging**, Applied **Production Logging & Cased Hole & Production Log** Evaluation, **Cased Hole Logging & Formation** Evaluation, Open & Cased Hole Logging, Screening of Oil Reservoirs for **Enhanced Oil Recovery**, **Enhanced Oil Recovery**, **Enhanced Oil Recovery** Techniques, **Petroleum Economic** Analysis, **Oil Industry** Orientation, **Oil Production & Refining**, **Crude Oil Market**, **Global Oil Supply & Demand**, **Global Oil Reserves**, **Crude Oil** Types & Specifications, **Oil Processing**, **Oil Transportation-Methods**, **Oil & Gas** Exploration and Methods, **Oil & Gas** Extraction, Technology Usage in Industrial Security; **Upstream**, **Midstream** & **Downstream Operations**; **Oil Reservoir** Evaluation & Estimation, **Oil Supply & Demand**, **Oil Contracts**, **Government Legislation & Oil Contractual Agreements**, **Oil Projects** & Their Feasibility (revenue and profitability), **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Reservoir Performance** Using Classical Methods, **Fractured Reservoir** Evaluation & Management, **Reservoir Surveillance** & Management, **Reservoir Engineering** & Simulation, **Reservoir Monitoring**, **Pressure Transient** Testing & **Reservoir** Performance Evaluation, **Reservoir** Characterization, **Reservoir** Engineering Applications with ESP and Heavy Oil, **Reservoir** Volumetrics, Water Drive Reservoir, **Reserve** Evaluation, Rock & Fluid Properties, Fluid Flow Mechanics, PVT Analysis, Material Balance, Darcy's Law & Applications, Radial Flow, **Gas Well** Testing, Natural Water Influx, EOR Methods, Directional Drilling, **Drilling** Production & Operations, Field Development & Production of Oil & Gas, **Wireline Logging**, **Mud Logging**, **Cased Hole Logging**, **Production Logging**, **Slick Line**, **Coil Tubing**, Exploration Wells Evaluation, **Horizontal Wells**, **Well Surveillance**, **Well Testing**, **Design & Analysis**, **Well Testing & Oil Well Performance**, **Well Log Interpretation** (**WLI**), **Formation Evaluation**, **Well Workover Supervision**, **Pressure Transient Analysis** and **Petrophysical Log Analysis**. Currently, he is the **CEO** & **Managing Director** of **Geo Resources Technology** wherein he is responsible in managing the services and providing technical supports to underground energy related projects concerning **field development**, **production**, **drilling**, **reservoir engineering** and **simulation**.

Throughout his long career life, Mr. Stan has worked for many international companies such as the **Kavala Oil**, **North Aegean Petroleum Company** and **Texaco Inc.**, as the **Managing Director**, **Operations Manager**, **Technical Trainer**, **Training Consultant**, **Petroleum Engineering & Exploration Department Head**, **Assistant Chief Petroleum Engineer**, **Reservoir Engineer, Resident Petroleum Engineer**, **Senior Petroleum Engineer** and **Petroleum Engineer** wherein he has been managing the evaluation of exploration wells, reservoir simulation, development training, production monitoring, wireline logging and well testing including selection and field application of well completion methods.

Mr. Stan has a **Master's** degree in **Petroleum Engineering** and a **Bachelor's** degree in **Geology** from the **New Mexico Institute of Mining & Technology** (**USA**) and from the **Aristotelian University** (**Greece**) respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership of Management (ILM**) and a member of the Society of Petroleum Engineers, USA (**SPE**), Society of Well Log Professional Analysts, USA (**SPWLA**) and European Association of Petroleum Geoscientists & Engineers (**EAGE**). Moreover, Mr. Stan published numerous scientific and technical papers and delivered various trainings, courses and workshops worldwide.

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 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 – 0900	***Introduction, Basics of Core Analysis***
0900 – 0930	***Coring & Wellsite***
0930 – 0945	*Break*
0945 – 1015	***Coring Recommendations***
1015 – 1030	***Generalities on Two-Phase Flow Properties***
1030 - 1100	***Basic Core Handling***
1100 – 1200	***Sample Preparation***
1200 - 1230	***Cleaning & Drying Methods***
1230 – 1245	*Break*
1245 – 1300	***Conventional Core Analysis***
1300 - 1315	***Porosity***
1315 – 1345	***Permeability***
1345 - 1420	***Overburden Effects***
1420 – 1430	***Recap & Review of Day 1***
1430	*Lunch & End of Day One*

Day 2

0730 - 0830	***QA/QC of Conventional Data***
0830 – 0900	***Design of SCAL Program***
0900 – 0930	***Measurement of SCAL Properties***
0930 – 0945	*Break*
0945 – 1030	***Sample Pre-screening***
1030 – 1130	***Electrical Properties***
1130 – 1230	***Archie Equations***
1230 – 1245	*Break*
1245 – 1315	***Porosity Exponent "m"***
1315 - 1345	***Saturation Exponent "n"***
1345 – 1420	***Excess Conductivity***
1420 – 1430	***Recap & Review of Day 2***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0800	***Capillary Pressure***
0800 – 0830	***Mercury Injection***
0830 – 0900	***Ultra-Centrifuge***
0900 – 0930	***Porous Plate***
0930 – 0945	*Break*
0945 – 1030	***NMR***
1030 – 1130	***PSD Determination***
1130 – 1200	***Application of Results***
1200 – 1230	***Wettability***
1230 – 1245	*Break*
1245 – 1315	***Wettability Concepts***
1315 – 1345	***Amott & USBM***
1345 – 1420	***Effect of Wettability***
1420 – 1430	***Recap & Review of Day 3***
1430	*Lunch & End of Day Three*

Day 4

0730 - 0830	***Relative Permeability***
0830 – 0900	***Single Phase Permeability***
0900 – 0930	***Unsteady State Relative Permeability***
0930 – 0945	*Break*
0945 – 1030	***Steady State Relative Permeability***
1030 – 1130	***Centrifuge Relative Permeability***
1130 – 1200	***Whole Core***
1200 – 1230	***Rock Mechanics***
1230 – 1245	*Break*
1245 – 1330	***History Matching & Simulation***
1330 – 1420	***Unconventional Analysis***
1420 – 1430	***Recap & Review of Day 4***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0800	***Quality Control of Available Data***
0800 – 0900	***Petrophysical Techniques***
0900 – 0930	***Averaging Petrophysical Properties***
0930 – 0945	*Break*
0945 – 1145	***Thin Section***
1145 – 1230	***SEM***
1230 – 1245	*Break*
1245 – 1315	***XRD***
1315 – 1345	***Integration of Results***
1345 – 1400	***Course Conclusion & Course Review***
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

Jaryl Castillo, Tel: +974 6652 9196, Email: jaryl@haward.org