

COURSE OVERVIEW DE0638-4D Advanced Geology

Course Title Advanced Geology

Course Date/Venue
November 18-21, 2024/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference

Course Duration/Credits



This course is designed to provide participants with an advanced and up-to-date overview of geology. It covers the geology and earth science; the rock types and cycling comprising of igneous rocks/volcanic and volcanism, metamorphic rocks, sedimentary rocks/sedimentary process and rock cycling; the basic rocks and fluid properties, structural geology, primary structures and stresses /strains and their relations to rock deformation; the faults, fractures, folds and unconformities of secondary structures; petroleum system process petroleum and classification of petroleum; the petroleum migration, petroleum accumulation and petroleum timing; and the petroleum system elements covering petroleum source rocks, petroleum cap

rocks and trapping mechanism.



During this interactive course, participants will learn the petroleum reservoir rocks, reservoir properties and reservoir exploration techniques for petroleum; the fluids; the geophysical methods, geochemical methods, subsurface methods and exploration application; the drilling methods and techniques, well casing and cementing, well completion and stimulation, fracking and oil refinery; monitoring a well while drilling; the mud logging, lag time calculation, sample collection and preparation; and the ditch sample evaluation, hydrocarbon and gas shows evaluation, wireline operations and logging while drilling operations.



Course Description

DE0638-4D



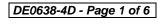
Four days/2.4 CEUs/24 PDHs



















Course Objectives

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

- Apply and gain an advanced knowledge on geology
- Discuss geology and earth science including rock types and cycling comprising of igneous rocks/volcanic and volcanism, metamorphic rocks, sedimentary rocks/sedimentary process and rock cycling
- Identify basic rocks and fluid properties, structural geology, primary structures and stresses /strains and their relations to rock deformation
- Discuss the faults, fractures, folds and unconformities of secondary structures
- Carryout petroleum and petroleum system process, classification of petroleum and petroleum migration, petroleum accumulation and petroleum timing
- Recognize petroleum system elements covering petroleum source rocks, petroleum cap rocks and trapping mechanism
- Discuss petroleum reservoir rocks, reservoir properties and reservoir fluids
- Apply exploration techniques for petroleum including geophysical methods, geochemical methods, subsurface methods and exploration application
- Employ drilling methods and techniques, well casing and cementing, well completion and stimulation, fracking and oil refinery
- Monitor a well while drilling and apply mud logging, lag time calculation, sample collection and preparation
- Carryout ditch sample evaluation, hydrocarbon and gas shows evaluation, wireline operations and logging while drilling operations

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, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of advanced geology for petroleum industry professionals (petroleum engineers, drilling engineers, geologists and geophysicists) involved in the important activities of reservoir evaluation, development and management, who require invaluable skills in the application of the techniques described for the successful exploitation of oil and gas reservoirs.

Accommodation

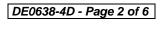
Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.















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: -

• ACCREDITED
PROVIDER

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.

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 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 40 years of Offshore & Onshore extensive experience within the Oil, Gas & Petroleum industries. His area of expertise include Fractured Reservoir Classification & Evaluation, Screening of Oil Reservoirs for Enhanced Oil Recovery, Oil Reservoir Evaluation & Estimation, Reserves & Resources, Reserves Estimation & Uncertainty, Reserve Evaluation, OIP Estimation & Range of Uncertainty, Reservoir Characterization, 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 & Heavy Oil, Reservoir Volumetrics, Water Drive Reservoir, Unconventional Resource & Reserves Evaluation, Oil & Gas Reserves Estimation, 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, 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 Supply & Demand, Oil Contracts, Government Legislation & Oil Contractual Agreements, Oil Projects & Their Feasibility (revenue and profitability), Rock & Fluid Properties, Fluid Flow Mechanics, PVT Analysis, Material Balance, Darcy's Law & Applications, Radial Flow, 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.

















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.

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: Monday 18th of November 2024

Day 1.	Monday to of November 2024
0730 - 0800	Registration & Coffee
0800 - 0815	Welcome & Introductions
0815 - 0830	PRE-TEST
0830 - 0930	Introduction
0930 - 0945	Break
0945 - 1100	Objectives & Outlines of the Course
1100 - 1230	Free Discussion
1230 – 1245	Break
1245 – 1420	Introduction to Geology & Earth Science
1420 - 1430	Recap
1430	Lunch & End of Day One

Day 2: Tuesday 19th of November 2024

<u> </u>	raceaay to criterember 2021
0730 - 0930	Overview on Rock Types & Cycling Igneous Rocks / Volcanic & Volcanism • Metamorphic Rocks • Sedimentary Rocks / Sedimentary Process • Rock Cycling
0930 - 0945	Break
0945 - 1100	Overview on Basic Rocks & Fluid Properties
1100 - 1230	Overview on Structural Geology Introduction to Structural Geology • Primary Structures
1230 - 1245	Break
1245 – 1420	Overview on Structural Geology (cont'd) Stresses /Strains & their Relations to Rock Deformation • Secondary Structures (Faults, Fractures, Folds & Unconformities)
1420 - 1430	Recap
1430	Lunch & End of Day Two

Day 3: Wednesday 20th of November 2024

Day 3:	wednesday 20" of November 2024
0730 – 0930	Introduction to Petroleum & Petroleum System Process
	Petroleum Definition • Petroleum (Origin / Occurrence) • Kerogen (Definition,
	Formation) • Classification of Petroleum • Conventional & Unconventional
	Resources • Petroleum Migration • Petroleum Accumulation • Petroleum Timing
0930 - 0945	Break
0945 – 1100	Overview on Petroleum System Elements
	Petroleum Source Rocks • Petroleum Cap Rocks • Trapping Mechanism •
	Petroleum Reservoir Rocks • Reservoir Properties • Reservoir Fluids
1100 – 1230	Overview on Exploration Techniques for Petroleum
	Introduction to Exploration Techniques • Geological Concept & Surface Geology •
	Geophysical Methods (Gravity, Magnetic & Seismic)
1230 - 1245	Break
1245 – 1420	Overview on Exploration Techniques for Petroleum (cont'd)
	Geochemical Methods • Subsurface Methods • Exploration Application



















1420 - 1430	Recap
1430	Lunch & End of Day Three

Day 4:	Thursday 21 th of November 2024
	Overview on Drilling Methods & Techniques
0730 - 0930	Vertical Wells • Deviated Wells & Horizontal Wells • How to Drill a Well? •
	Drilling Problems
	Overview on Drilling Methods & Techniques (cont'd)
0930 - 0945	Well Casing & Cementing • Well Completion & Stimulation • Fracking • Oil
	Refinery
0945 - 1100	Break
	Overview on Monitoring a Well While Drilling
	Mud Logging • Lag Time Calculation • Rate of Penetration & its Interpretation •
1100 - 1230	Sample Collection & Preparation Rate of Penetration & its Interpretation • Sample
	Collection & Preparation • Ditch Sample Evaluation • Hydrocarbon & Gas Shows
	Evaluation
1230 - 1245	Break
	Overview on Monitoring a Well Post Drilling
1245 - 1345	Introduction to Petrophysics • Wireline Operations • Logging While Drilling
	Operations
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:-



<u>Course Coordinator</u>
Mari Nakintu, Tel: +971 2 30 91 714, Email: <u>mari1@haward.org</u>















