COURSE OVERVIEW DE0344
Oilfield Development and Production Optimization

Course Title
Oilfield Development and Production Optimization

Course Date/Venue
Session 1: February 16-20, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: August 17-21, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Course Reference
DE0344

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies 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 Oilfield Development and Production Optimization. It covers the basics of petroleum geology, reservoir rock and fluid properties; the types, characteristics and formation of oil and gas reservoirs and the fundamentals of reservoir engineering; the exploration techniques and regulatory and environmental considerations; the petrophysical properties, reservoir heterogeneity and geostatistics; and the core analysis and interpretation, log interpretation, 3D reservoir modeling and uncertainty and risk analysis.

Further, the course will also discuss the well drilling and completion, drilling technologies and modern drilling techniques; the drilling fluids, hydraulics and the importance of mud systems; the well completion design, wellbore stability, sand control, testing and pressure transient analysis; the reservoir management strategies, reservoir monitoring and tools and techniques for reservoir surveillance; and the waterflooding principles and secondary recovery methods, enhanced oil recovery (EOR) methods and tertiary recovery techniques.

During this interactive course, participants will learn the production decline analysis, artificial lift methods, production system analysis, choke performance and flow assurance; the scale, corrosion and erosion, well intervention, workover operations and techniques to enhance production; optimizing real-time production and using data for decision-making; the project evaluation of petroleum economics, asset management strategies, risk management in oilfield development and project planning and execution; the health, safety and environmental (HSE) management, stakeholder engagement and effective communication strategies; the advanced waterflooding, CO_2 EOR and sequestration; the thermal recovery methods, chemical EOR techniques, gas injection methods and unconventional oil recovery; the emerging technologies in oil and gas; the sustainability and green practices in oilfield operations; and the future of oil and gas in the energy transition.

Course Objectives

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

- Apply and gain a comprehensive knowledge on oilfield development and production optimization
- Recognize the basics of petroleum geology, reservoir rock and fluid properties
- Identify the types, characteristics and formation of oil and gas reservoirs and the fundamentals of reservoir engineering
- Carryout exploration techniques covering seismic methods and drilling technologies as well as review regulatory and environmental considerations
- Identify petrophysical properties, reservoir heterogeneity and geostatistics
- Carryout core analysis and interpretation, log interpretation, 3D reservoir modeling and uncertainty and risk analysis
- Discuss well drilling and completion as well as implement drilling technologies and modern drilling techniques
- Recognize the drilling fluids and hydraulics and the importance of mud systems
- Illustrate well completion design, wellbore stability, sand control, testing and pressure transient analysis
- Employ reservoir management strategies, reservoir monitoring and the tools and techniques for reservoir surveillance
- Apply waterflooding principles and secondary recovery methods, enhanced oil recovery (EOR) methods and tertiary recovery techniques
- Carryout production decline analysis, artificial lift methods, production system analysis, choke performance and flow assurance
- Determine scale, corrosion and erosion as well as carryout well intervention, workover operations and techniques to enhance production
- Optimize real-time production and use data for decision-making
- Apply project evaluation of petroleum economics, asset management strategies, risk management in oilfield development and project planning and execution

- Carryout health, safety and environmental (HSE) management, stakeholder engagement and effective communication strategies
- Illustrate advanced waterflooding, CO_2 EOR and sequestration, thermal recovery methods, chemical EOR techniques, gas injection methods and unconventional oil recovery
- Explain the emerging technologies in oil and gas including the sustainability and green practices in oilfield operations and the future of oil and gas in the energy transition

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 oilfield development and production optimization for production engineers, reservoir engineers, completion engineers, drilling and facilities engineers and field operators.

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.

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: -

- 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.

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 **35 years** of **Offshore & Onshore** extensive experience within the **Oil**, **Gas & Petroleum** industries**.** His area of expertise include **Reserves & Resources**, **Reserves Estimation & Uncertainty**, **Reservoir** Characterization, **Unconventiona**l **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.

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	***Overview of the Oil & Gas Industry:*** *History, Current State and Future Trends*
0900 – 0915	***Basics of Petroleum Geology:*** *Understanding Reservoir Rock and Fluid Properties*
0915 - 0930	***Oil & Gas Reservoirs:*** *Types, Characteristics and Formation*
0930 – 0945	*Break*
0945 – 1045	***Fundamentals of Reservoir Engineering:*** *Reservoir Life Cycle, Volumetric Estimation*
1045 – 1115	***Exploration Techniques:*** *Seismic Methods, Drilling Technologies*
1115 – 1145	***Regulatory & Environmental Considerations:*** *Compliance, Safety and Sustainability*
1145 - 1230	***Petrophysical Properties:*** *Porosity, Permeability and Saturation*
1230 – 1245	*Break*
1245 – 1315	***Reservoir Heterogeneity & Geostatistics:*** *Understanding Variability in Reservoirs*
1315 – 1345	***Core Analysis & Interpretation:*** *Laboratory Analysis of Rock Samples*
1345 - 1420	***Log Interpretation:*** *Understanding Well Logs for Reservoir Evaluation*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0800	***3D Reservoir Modeling:*** *Techniques and Tools*
0800 – 0830	***Uncertainty & Risk Analysis:*** *Managing Uncertainties in Reservoir Characterization*
0830 – 0900	***Drilling Technologies:*** *Overview of Modern Drilling Techniques*
0900 – 0930	***Drilling Fluids & Hydraulics:*** *Understanding the Importance of Mud Systems*
0930 – 0945	*Break*
0945 – 1030	***Well Completion Design:*** *Types of Completions, Design Criteria*
1030 – 1130	***Wellbore Stability:*** *Understanding and Managing Wellbore Pressures*
1130 – 1200	***Sand Control:*** *Techniques and Strategies*
1200 - 1230	***Well Testing & Pressure Transient Analysis:*** *Interpretation and Application*
1230 – 1245	*Break*
1245 – 1315	***Reservoir Management Strategies:*** *Maximizing Recovery and Value*
1345 – 1345	***Reservoir Monitoring:*** *Tools and Techniques for Reservoir Surveillance*
1345 - 1420	***Waterflooding Principles:*** *Secondary Recovery Methods*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0800	***Enhanced Oil Recovery (EOR) Methods:*** *Tertiary Recovery Techniques*
0800 – 0830	***Production Decline Analysis:*** *Understanding and Predicting Production Decline*
0830 – 0900	***Reservoir Simulation:*** *Applying Simulation in Reservoir Management*
0900 – 0930	***Artificial Lift Methods:*** *Types and Applications*
0930 – 0945	*Break*
0945 – 1030	***Production System Analysis:*** *Nodal Analysis, System Optimization*
1030 – 1100	***Choke Performance & Flow Assurance:*** *Managing Flow from Reservoir to Surface*
1100 – 1130	***Scale, Corrosion & Erosion:*** *Challenges and Mitigation Strategies*
1130 - 1230	***Well Intervention & Workover Operations:*** *Techniques to Enhance Production*
1230 – 1245	*Break*
1245 – 1315	***Real-time Production Optimization:*** *Using Data for Decision-Making*
1315 – 1345	***Petroleum Economics:*** *Fundamentals and Project Evaluation*
1345 - 1420	***Asset Management Strategies:*** *Maximizing Asset Value*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0800	***Risk Management in Oilfield Development:*** *Identifying and Managing Risks*
0800 – 0830	***Project Planning & Execution:*** *Best Practices in Project Management*
0830 – 0900	***Health, Safety & Environmental (HSE) Management:*** *Key Considerations*
0900 - 0930	***Stakeholder Engagement & Communication:*** *Effective Communication Strategies*
0930 - 0945	*Break*
0945 – 1030	***Advanced Waterflooding:*** *New Approaches and Technologies*
1030 – 1130	***CO2 EOR & Sequestration:*** *Utilization and Environmental Aspects*
1130 – 1230	***Thermal Recovery Methods:*** *Steam Flooding, SAGD*
1230 – 1245	*Break*
1245 – 1315	***Chemical EOR Techniques:*** *Polymer, Surfactant Flooding*
1315 – 1345	***Gas Injection Methods:*** *Miscible and Immiscible Gas Injection*
1345 - 1420	***Unconventional Oil Recovery:*** *Techniques for Shale and Tight Oil*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0800	***Case Study:*** *Reservoir Characterization & Development Plan*
0800 – 0830	***Case Study:*** *Successful EOR Implementation*
0830 – 0900	***Case Study:*** *Drilling Optimization in a Challenging Environment*
0900 - 0930	***Case Study:*** *Digital Transformation in an Oilfield*
0930 - 0945	*Break*
0945 – 1015	***Practical Workshop:*** *Simulation & Modeling Exercises*
1015 – 1045	***Group Discussion:*** *Problem-Solving in Production Optimization*
1045 – 1115	***Emerging Technologies in Oil & Gas:*** *Innovations Shaping the Future*
1115 – 1145	***Sustainability & Green Practices in Oilfield Operations:*** *Environmental Stewardship*
1145 - 1230	***The Future of Oil & Gas in the Energy Transition:*** *Renewable Energy and its Impact*

1230 – 1245	*Break*
1245 – 1345	***Career Paths & Opportunities in Oilfield Development & Production Optimization***
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:-

Course Coordinator

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