

COURSE OVERVIEW DE0344
Oilfield Development and Production Optimization

Course Title

Oilfield Development and Production Optimization

Course Date/Venue

February 25-29, 2024/Tamra Meeting Room, Al Bandar Rotana, Dubai Creek, Dubai, UAE

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, CO₂ 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, CO₂ 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, 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 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\$ 8,000 per Delegate + **VAT**. 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: -


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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.

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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.

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. Konstantin Zorbalas, MSc, BSc, is a Senior Petroleum Engineer & Well Completions Specialist with over 25 years of offshore and onshore experience in the Oil & Gas, Refinery & Petrochemical industries. His wide expertise includes Workovers & Completions, Petroleum Risk & Decision Analysis, Acidizing Application in Sandstone & Carbonate, Well Testing Analysis, Stimulation Operations, Reserves Evaluation, Reservoir Fluid Properties, Reservoir Engineering & Simulation Studies, Reservoir Monitoring, Artificial Lift Design, Gas Operations, Workover/Remedial Operations & Heavy Oil Technology, Applied Water Technology, Oilfield Development & Production Optimization, Oil & Gas Production, X-mas Tree & Wellhead Operations & Testing, Artificial Lift Systems (Gas Lift, ESP, and Rod Pumping), Well Cementing, Production Optimization, Well Completion Design, Sand Control, PLT Correlation, Slickline Operations, Acid Stimulation, Well testing, Production Logging, Project Evaluation & Economic Analysis. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant of National Oil Company** wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer, Well Completion Specialist, Production Manager, Project Manager, Technical Manager, Technical Supervisor & Contracts Manager, Production Engineer, Production Supervisor, Production Technologist, Technical Specialist, Business Development Analyst, Field Production Engineer and Field Engineer.** He worked for many **world-class oil/gas companies** such as **ZADCO, ADMA-OPCO, Oilfield International Ltd, Burlington Resources (later acquired by Conoco Phillips), MOBIL E&P, Saudi Aramco, Pluspetrol E&P SA, Wintershall, Taylor Energy, Schlumberger, Rowan Drilling and Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m³/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP and Gas Lift systems**.

Mr. Zorbalas has **Master and Bachelor degrees in Petroleum Engineering** from the **Mississippi State University, USA**. Further, he is an **SPE Certified Petroleum Engineer, Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, an active member of the **Society of Petroleum Engineers (SPE)** and has numerous scientific and technical publications and delivered innumerable training courses, seminars 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: Sunday, 25th of February 2024

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: Monday, 26th of February 2024

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: Tuesday, 27th of February 2024

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: Wednesday, 28th of February 2024

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: Thursday, 29th of February 2024

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	<i>Career Paths & Opportunities in Oilfield Development & Production Optimization</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & 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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