MERCURY

Oil & Gas Well Performance & Relation to Damage & Stimulation

15 – 19 November 2026
Amman (Jordan)



Dubai - UAE: +971 4 450 5697
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Ref: 15129_303094 **Date:** 15 – 19 November 2026 **Location:** Amman (Jordan) **Fees:** 4200 Euro

Introduction:

The well performance and stimulation techniques in the oil and gas industry course will provide a comprehensive approach to performing NODAL analysis for the production system. Participants will predict the rate at which a well should be capable of producing, given reservoir and fluid properties, wellbore configuration, and flowing wellhead pressure. They will learn to identify which reservoir/completion/wellbore system components are restricting performance.

Influence well flow analysis through a descriptive review of completion processes such as perforation, sand control, and base material acidification. The well performance and stimulation techniques in the oil and gas industry course will delve into the contribution of hydraulic fractures to reservoir performance and examine the effect of horizontal wells in optimizing reservoir potential. Practical work examples reinforce the theoretical content throughout the course.

Targeted Groups:

- Reservoir and Production Engineers.
- Petroleum Engineers.
- Reservoir Engineers.
- Production Engineers.
- Drilling Engineers.
- Oil and Gas Well Completion Engineers.
- Geologists.
- Geophysicists.
- Oil and Gas Well Intervention Specialists.
- Stimulation Engineers.
- Fracturing Engineers.
- Oil and Gas Well Integrity Engineers.
- Asset Managers.
- Field Operators.
- Oil and Gas Consultants.
- Technical Managers.
- Research and Development Scientists.
- Operations Managers.
- Project Managers.
- Maintenance Engineers.
- Service Company Personnel.

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Course Objectives:

At the end of this well performance and stimulation techniques in the oil and gas industry course, participants will be able to:

- Apply Well Performance Analysis Concepts to Represent the Total Producing System from Reservoir.
- Through Completion, Wellbore, and Gathering System.
- Prepare Proper Well Performance Analysis.
- Assess Skin, Well Completion, and the Effect of Damage on Well Inflow.
- Define Horizontal Well Effect on Inflow Performance.

Targeted Competencies:

At the end of this well performance and stimulation techniques in the oil and gas industry training, target competencies will be able to:

- Well Performance Analysis.
- Reservoir Management.
- Damage Identification and Assessment.
- Stimulation Techniques and Methods.
- Hydraulic Fracturing Design.
- Acidizing Procedures.
- Formation Damage Mitigation.
- Well Completion Optimization.
- Enhanced Oil Recovery EOR Methods.
- Well Integrity Management.
- Production Optimization.
- Data Interpretation and Analysis.
- Operational Efficiency Improvement.
- Troubleshooting and Problem-Solving.
- Risk Assessment and Management.
- Project Planning and Execution.
- Regulatory Compliance.
- Technology Application and Innovation.
- Collaboration and Teamwork.
- Safety and Environmental Awareness.

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Oil and Gas Industry Performance through Well Stimulation Techniques:

In this well performance and stimulation techniques in the oil and gas industry course, participants will explore the concept of gas and oil well stimulation within the oil and gas industry, focusing on the various techniques and methods to improve well performance. We will look at the types of well stimulation, such as hydraulic fracturing and acidizing, the role of oil well stimulation chemicals and methods, and the equipment utilized in these processes.

Understanding well stimulation and the available gas and oil well stimulation treatments can significantly improve oil well performance analysis and gas well performance. Participants will gain insights into the latest well stimulation equipment and how different stimulation methods can be applied to alleviate well damage and enhance well productivity.

Course Content:

Unit 1: Concept of Well Performance Analysis:

- Objective of Well Performance Analysis.
- Reservoir Performance IPR: Steady State, PSS, Transient Flow.
- Productivity Index PI, Effects of PVT.
- Solution Gas Drive. Non-linear IPR Relationships.
- Gas Flow, Different Pressure Formulations, and Non-Darcy Flow.
- Concept and Assumptions of Nodal Analysis.
- Inflow and Outflow Performance Relationship.

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Unit 2: System Pressure Losses:

- General Pressure Drop Equation for Pipes.
- Concept of Critical Flow.
- Systems Plot and its Uses.
- Localized Pressure Losses in Nodes.
- Surface Network Modeling.
- The Concept of Artificial Lift.

Unit 3: Skin, Well Completion, and Effect of Damage on Well Inflow:

- Skin Component Identification and Analysis.
- Perforations: Geometry and Penetration, Flow Profiles, Perforation Skin Modeling.
- Sand Control: Mechanisms of Sand Production and Sand Exclusion Methods.
- Gravel Pack Damage and Skin.
- Formation Damage Mechanisms and Their Impact on Skin.
- Chemical Damage Removal Treatments and Matrix Stimulation.

Unit 4: Hydraulic Fracturing:

- IPR for a Fractured Well Stimulation Candidate Selection.
- Rock Mechanics and its Relation to Fracturing Treatment.
- Fracturing Treatment Design.
- Fracture Conductivity and Skin.
- Fluid and Proppant Effects on Fracture Conductivity and Reservoir Performance.
- Acid Fracturing of Carbonate Reservoirs.

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Unit 5: Horizontal Wells:

- Horizontal Well IPR and Boundary Effects.
- Coning/Cusping Relationships.
- Relative Skin Effects in Horizontal Completions - Stimulation of Horizontal Wells.
- Practical Well Performance Cases.