Integrated Production Optimization: From Diagnosis to Economic Delivery

From Flow to Profit — One Well at a Time.

Date
22-26 June 2025

Location
5 Stars Hotel

Course Fees:
KWD 375

Delivered By:
Eng. Omar Karbouj

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Program Overview

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This 5-day practical course guides engineers through the real-world journey of optimizing oil production — starting from underperformance diagnosis, through technical interventions such as asphaltene management and stimulation, and ending with production forecasting and economic evaluation.

It merges **subsurface engineering, surface behavior, flow assurance, and field economics** into a unified workflow, ensuring every technical decision is supported by realistic rationale. Realistic case-based exercises reinforce learning throughout.

Outline

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Day	Theme	Topics	Practical Work
Day 1	Identifying & Diagnosing Production Losses	- Introduction to production optimization workflow - System analysis (reservoir → wellbore → surface) - Detecting causes: mechanical, pressure, flow issues	Case scenario walkthrough Nodal/system analysis using Excel
Day 2	Pressure Depletion & Asphaltene Challenges	- Link between depletion and asphaltene stability - Identifying and confirming asphaltene issues - Production impact and early economic loss estimate	Lab data interpretation Pressure vs deposition charting Economic impact of flow restriction
Day 3	Stimulation Techniques for Flow Restoration	- Matrix acidizing, solvents, mechanical cleanouts - Selecting treatment based on damage profile - Linking productivity increase to future potential	Pre/post treatment productivity ratio Simplified treatment design with gain estimates
Day 4	Intervention Costing & Value Justification	- CAPEX/OPEX for stimulation and asphaltene jobs - Quick economic screening: NPV, IRR, payback - Selecting best option under budget & uncertainty	Multi-option economic comparison Simple risk matrix & break-even analysis
Day 5	Forecasting and Full Case Integration	- Decline after cleanup/stimulation - Production forecast linked to economics - Final decision report with technical + financial reasoning	DCA + cash flow modeling Group presentations of well cases

Narrative Flow

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1

Diagnose the problem (Is it inflow or outflow? Pressure- or damage-related?)

2

Identify technical cause (e.g., asphaltene linked to pressure drop)

3

Propose treatments (technically suitable and economically justifiable)

4

Forecast performance (technical production + financial value)

5

Make decisions (balanced between production gains and financial returns)