Oil and Gas Exploration and Production Fundamentals for Non-Technical Staff

1 – 5 March 2027
London - Central London four-star



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Ref: 150_10148 **Date:** 1 – 5 March 2027 **Location:** London - Central London four-star **Fees:** 23000 SAR

Introduction:

Finance, legal, procurement, HR and commercial staff who support oil and gas exploration and production often sign off budgets, contracts and hiring plans without a clear picture of how an upstream asset works, which slows decisions and weakens challenge of technical teams. This Core Concept course explains the upstream value chain in plain language, from how reservoirs form and how prospects are found to licensing, drilling, reserves, production, fiscal terms and HSE. Participants apply it to a field case and produce an Upstream Asset Briefing Note for their own role.

Course Objectives:

- Explain how source rock, migration, reservoir rock, trap and seal combine to form an oil or gas accumulation and why most prospects fail
- Describe the stages of the field life cycle from licence award through exploration, appraisal, development, production and decommissioning, and the decisions taken at each gate
- Interpret drilling, well completion and production facility terms used in budgets, contracts and daily reports well enough to question specialists
- Read reserves and resources statements using the PRMS categories of proved, probable and possible and explain what changes a booked volume
- Outline how concession and production sharing terms, cost oil and profit oil shape revenue, cost recovery and the value of an upstream asset
- Identify the main HSE hazards and controls in upstream operations and the role support functions play in managing them

Target Audience:

- Finance, budgeting and accounting staff who process capital and operating expenditure for upstream assets
- Legal and contracts staff who draft, review or administer licences, joint operating agreements and service contracts
- Procurement and supply chain staff who buy drilling, well and facility services and equipment
- HR, talent and learning staff who recruit and develop geoscience, engineering and operations teams
- Commercial, business development and planning staff who work alongside upstream asset teams
- Recently joined graduates and professionals entering the oil and gas sector from other industries

Course Outline:

Day 1: The Upstream Industry and Petroleum Geology in Plain Language

- Upstream, Midstream and Downstream Value Chain Map
- Industry Players: Integrated Companies, Independent Operators, Drilling Contractors and Service Companies
- Hydrocarbon Origin: Source Rock, Organic Matter and Maturation Temperature
- Migration, Reservoir Rock Porosity and Permeability Explained with Everyday Analogies
- Structural and Stratigraphic Traps with Seal Rock Examples

Day 2: Exploration Methods, Licensing and the Field Life Cycle

- Seismic Survey Overview: How Sound Waves Build a Picture of the Subsurface
- Prospect Evaluation and Chance of Success Risking Sheet
- Licensing Rounds, Work Programmes and Joint Venture Partner Roles
- Field Life Cycle Gates: Exploration, Appraisal, Development, Production and Decommissioning
- Field Development Plan Contents and the Final Investment Decision

Day 3: Wells, Reservoirs and Reserves Classification

- Drilling Rig Types and the Well Construction Sequence at Overview
- Casing, Cementing and Well Completion Components Glossary
- Reservoir Drive Mechanisms and Recovery Factor Basics
- PRMS Categories: Proved, Probable and Possible Reserves with 1P, 2P and 3P Totals
- Contingent and Prospective Resources versus Reserves in Company Reporting

Day 4: Production, Midstream Handoff, Economics and HSE

- Surface Facilities Walk-Through: Wellhead, Separation, Treatment and Export
- Custody Transfer Metering and the Handoff to Pipelines and Terminals
- Upstream Cost Structure: Exploration, Capital and Operating Expenditure Profiles
- Fiscal Regimes Compared: Concession with Royalty and Tax versus Production Sharing with Cost Oil and Profit Oil
- Upstream HSE Hazards: Blowout, Hydrogen Sulphide, Fire and Spill Controls with Permit to Work

Day 5: Field Case Study and Upstream Asset Briefing Note

- Case Study: Tracing a Discovery from Seismic Prospect to First Oil
- Case Study: Reading a Reserves Statement and Production Forecast
- Case Study: Following a Barrel Through a Production Sharing Contract Split
- Role Mapping: Where Finance, Legal, Procurement, HR and Commercial Decisions Touch the Asset
- Upstream Asset Briefing Note Drafting and Peer Review

Skills You Will Gain:

- Upstream Value Chain Literacy
- Petroleum System Awareness
- Field Life Cycle Navigation
- Reserves Statement Reading
- Fiscal Terms Interpretation
- Upstream Cost Awareness
- Technical Terminology Fluency
- Cross-Functional Asset Communication

Why Attend This Course:

- Return with an Upstream Asset Briefing Note that links your function's decisions to each stage of an oil or gas field
- Hold informed conversations with geoscientists, engineers and operations staff without needing a technical degree
- Challenge budgets, contracts and hiring requests with an understanding of what drives upstream cost, risk and value
- Compare how support functions work with upstream teams alongside participants from operators, service companies and advisory firms

Conclusion:

An oil or gas field passes through geology, exploration, licensing, drilling, reserves booking, production, export and eventually decommissioning, and every support function touches several of those stages. The first four days build that picture step by step in non-technical language, closing with facilities, fiscal terms and HSE. The final day follows a single discovery from prospect to first oil and turns the learning into an Upstream Asset Briefing Note each participant can use with colleagues and managers.