Applied Petroleum and Reservoir Engineering

Duration: 5 Days

Date: October 28 – November 1, 2024

Location: London, UK

Candidates:

Development and exploration team members and leaders including petroleum engineers, reservoir engineers, geologists, geophysicists, and paraphysicists who are involved in oil and field delineation and development.

Summary:

The course provides a comprehensive overview of Applied Petroleum and Reservoir Engineering aspects starting from Exploration phase and during both Appraisal and Development stages of oil and gas projects. Many examples of oil and gas fields will be shared to deepen understanding of the reservoir and petroleum engineering aspects within the oil and gas industry.

This course covers rock and fluid properties, reservoir characterization, modeling and management, reservoir driving mechanisms and how they interchange their impact throughout all the production period from primary recovery followed by secondary recovery and then enhanced oil recovery.

Surveillance programs and field applications will be discussed in details aiming to plan for secondary and tertiary recovery projects (Enhanced Oil Recovery). Global cases of both water injection/flooding and gas injection will be demonstrated.

At last, well performance analysis and artificial lift methods to enhance production are going also to be included in this course program. All subsurface tools used including Logs, core and well-test will be highlighted in this course

Course Objectives:

By the end of the course, you will learn how to:

- Become familiar with the oil field life cycle
- Understand deeply theories of reservoir engineering
- Make proper reservoir assessment
- Get acquainted with rock/fluid properties and their interaction
- Estimate reserves
- Knows the concepts of reservoir modeling and Management
- Account for the production technology
- Understand the primary, secondary and Tertiary production

Course Contents:

- **Field Life Cycle**
- **Tools used for reservoir characterization and Modeling**
    1) Well Logs
    2) Core analysis and advanced rock evaluation
    3) Well-Test

- Reservoir fluid properties
- PVT & phase behavior
- Reserve Estimation and risk analysis
- Static and Dynamic Modeling
- Reservoir Management
- Oil Wells Performance
- Primary Recovery Driving Mechanisms
- Artificial Lift; Concept and Types
- Secondary Recovery
- Water Flooding
- Enhance Oil Recovery
- Case Studies