

Location: Taaeen/ ADNOC

Date: April 2025

Duration: 5 Days

Fee: English

Course Title: Carbonate Geology applied to Conventional and Unconventional Plays

Learning Objectives:

- Understand the geological processes involved in carbonate reservoir formation.
- Differentiate between conventional and unconventional carbonate plays.
- Analyze the impact of diagenesis on reservoir quality and performance.

Target Audience:

- Geologists, Petroleum Engineers, and Geoscientists working in oil & gas exploration and production.
- Reservoir Engineers and Petrophysicists looking to enhance their understanding of carbonate reservoirs.
- Exploration Managers and Technical Team Leaders overseeing carbonate reservoir projects.
- Researchers and Academics specializing in sedimentology and reservoir geology.

Daily Course Outline:

Day 1: Fundamentals of Carbonate Reservoir Formation

- Introduction to Carbonate Reservoirs
- Depositional Environments of Carbonates (Shallow Marine, Deepwater, Reefs)
- Geological Processes Leading to Carbonate Accumulation
- Facies and Pore System Development

Day 2: Classification & Petrophysical Properties

- Conventional vs. Unconventional Carbonate Reservoirs
- Comparison of Clastic and Carbonate Reservoirs
- Pore Network and Reservoir Quality
- Core Logging and Sample Analysis

Day 3: Diagenesis and Its Impact on Reservoir Performance

- Types of Diagenetic Processes (Cementation, Dissolution, Dolomitization)
- Effects of Diagenesis on Porosity and Permeability
- Reservoir Heterogeneity Due to Diagenetic Overprints
- Case Studies on Diagenetic Controls on Reservoir Quality

Day 4: Reservoir Characterization & Flow Dynamics

- Carbonate Reservoir Modeling and Interpretation
- Well Logging & Seismic Attributes in Carbonates
- Fractured Carbonate Reservoirs and Flow Dynamics



- Waterflooding and EOR (Enhanced Oil Recovery) Techniques in Carbonates

Day 5: Exploration & Production Strategies

- Risk Assessment in Carbonate Reservoir Exploration
- Production Challenges & Solutions in Unconventional Plays
- Field Development Planning for Carbonate Reservoirs
- Workshop: Integrated Approach to Carbonate Reservoir Management

