



## Applied Reservoir Engineering

Ref.: 15124 303053 Date: 22 - 26 Dec 2024 Location: Online Fees: 2500 Euro

#### Introduction:

This course is designed to provide a solid understanding of the practical methods used in reservoir engineering for maximizing hydrocarbon recovery. The course covers wide aspects related to reservoir engineering during the reservoir life cycle, starting from the primary recovery and up to enhanced oil recovery. To support participants by a wide knowledge, special topics are included such as reservoir simulation and enhanced oil recovery modeling.

#### **Targeted Groups:**

Reservoir and Production Engineers

#### **Course Objectives:**

At the end of this course the participants will be able to:

- Differentiate between different recoveries mechanisms.
- Determine oil in place by different methods.
- Conduct well test and inflow performance analysis.
- Understand reservoir simulation process.

#### **Course Content:**

#### **Unit 1: Reservoir Engineering Fundamentals:**

- Reservoir Life Cycle.
- · Reservoir Drive Mechanisms.
- Reservoir Ultimate Recovery Factor.
- Wettability & Relative Permeability.
- Capillary Pressure.
- Reservoir Fluid Properties.

#### **Unit 2: Oil Recovery Methods:**

- Primary Recovery.
- Secondary Recovery.
- · Water Flooding.
- Flooding Patterns.
- Factors Affecting Water Flooding.
- Enhanced Oil Recovery



## **Unit 3: Original Hydrocarbon in Place Determination:**

- · Volumetric Method.
- Material Balance.
- Examples.
- Decline Curve Analysis.
- Examples.

#### **Unit 4: Well Testing and Inflow Performance:**

- Well Testing
  - Well Test Objectives.
  - Define Test Input/output Data.
  - Types of Well Tests.
  - Diffusivity Equation.
  - Derivative Analysis.
- Inflow Performance
  - Objective of Nodal Analysis.
  - Production System Pressure Losses.
  - Nodal Analysis Approach.
  - Inflow/Outflow Curves.
  - Applications of Nodal Analysis.

### **Day 5: Introduction to Reservoir Simulation:**

- Reservoir Simulation Concept.
- Types of Simulators.
- Reservoir Simulation Model.
- Input Data Required.
- Steps to Run the Simulation Model.





# Registration form on the : Applied Reservoir Engineering

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