



Applied Reservoir Engineering Practices

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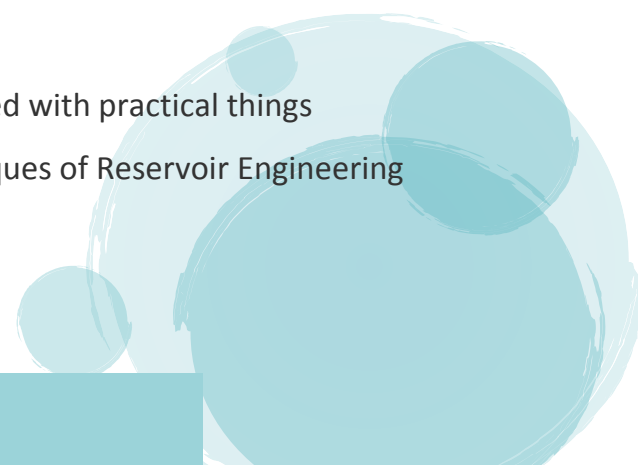
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Introduction:

This course represents the core of reservoir engineering and the foundation for all future studies in this subject. An in-depth study of the subject is presented. Numerous engineering practices are covered ranging from fluid and rock properties to simulation and field development planning. An extensive manual and set of references is included.

This course has been taught for many years on a worldwide basis. It has been continuously updated and improved by a team of experienced reservoir engineering consultants who spend most of their time working on major reservoir engineering projects and field studies. It is designed to provide the candidates with a solid understanding of reservoir engineering and associated modern theories in order to manage and maximize hydrocarbon recovery. Examples and exercises are used throughout the course to help the candidates with understanding key performance concepts.

The candidates will be able to:

- Have a deep comprehension knowledge of the application of Reservoir Engineering
 - Optimize field performance
 - Maximize and manage hydrocarbon recoveries
 - Learn associated modern theories which are balanced with practical things
 - Understand how to apply immediately latest techniques of Reservoir Engineering
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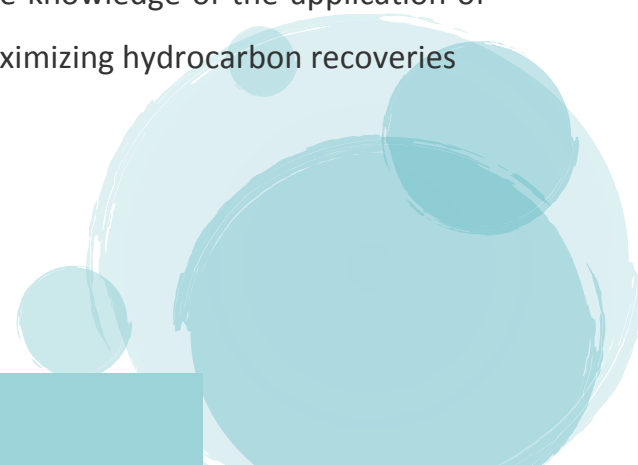
Objectives:

By the end of this course delegates will learn about:

- Critical properties of reservoir rocks Fluid (oil, water, and gas) relationships
 - Methods to calculate hydrocarbons initially in place
 - Dynamic techniques to assess reservoir performance
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- Parameters that impact well/reservoir performance over time
 - Well testing principles and techniques & Aquifer characterization
 - Reservoir drive mechanisms for both Oil and Gas reservoirs
 - Reservoir simulation techniques
 - Oil and gas field development planning principles
 - Forecasting production decline & Enhanced oil recovery processes

Who should attend?

Petroleum Engineers, Drilling Engineers, Production Engineers, Reservoir Engineers and other disciplines engineers who desire to obtain a comprehensive knowledge of the application of reservoir engineering to optimize field performance and maximizing hydrocarbon recoveries



Course Outline:

- Basic Phase Behavior of Hydrocarbon Systems
 - Capillary Pressure and Relative Permeability Concepts
 - Capillary Pressure and Fluid Distributions
 - Two and Three Relative Permeability
 - Normalization of Relative Permeability
 - Relative Permeability Up scaling
 - Fundamentals of Reservoir Fluid Flow
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- Fluid Flow Equations
 - Principles of Superposition
 - Transient Well Testing
 - Fundamentals of Reservoir Fluid Flow
 - Water and Gas Coning
 - Oil Well Performance
 - Vertical Oil Well Performance
 - Horizontal Oil Well Performance
 - Gas Well Performance
 - Vertical Gas Well Performance

- Horizontal Gas Well Performance
 - Decline Curve Analysis & Type Curve Analysis
 - Water Influx
 - Recognition of Natural Water Influx
 - Water Influx Models
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- Gas & Oil Recovery Mechanisms and Material Balance Equation
 - Principles of Water Flooding
 - Introduction to Enhanced Oil Recovery Methods
 - Role of Reservoir Engineers in Managing Asset Values
 - Rock Properties & Reservoir Fluid Properties
 - Volumetric Calculation of Reservoir Fluids in Place
 - Material Balance Methods
 - Oil & Gas Well Testing
 - Aquifers
 - Immiscible Displacement
 - Horizontal Wells

- Reservoir Types and Drive Mechanisms
- Field Development Strategy
- Reservoir Simulation
- Production Forecasting