



Course Code

44-412117-2

Fundamentals of Petrophysics and Formation Evaluation (FPF)

Course Overview

Petrophysics and Formation Evaluation are the foundation of the static reservoir model, which is the precursor to reservoir simulation and development planning.

This course will provide a grounding in the fundamentals of core and log petrophysics and the methods that are employed to evaluate formations to determine the parameters required for the reservoir model, namely: porosity, permeability and fluid saturations. The course will cover core analysis and log analysis methods and modelling approaches such as saturation height analysis and hydraulic unit modelling using reservoir quality indices and fluid zone indicators.

Who should attend?

This course has been designed for geologists, geophysicists, reservoir engineers, entry-level petrophysicists and reservoir modellers who need to understand the fundamentals of petrophysics and the methods employed for formation evaluation.

Topics covered

- Understand the concepts of Stock-Tank Oil Initially In Place (STOIIP)
- Understand the principles of rock and fluid properties

- Be familiar with the analytical methods, uncertainties and limitations of conventional and special core analysis
- Understand the fundamentals of logging tool theory
- Be able to determine:
 - Lithology and porosity from conventional open hole logs
 - Quality indications of permeability in the subsurface
 - Fluid saturations in clean formations using the Archie equation
 - Fluid saturation determination in shaly formations using Simandoux, Indonesian and Waxman Smits methodologies
 - Saturation from saturation-height models
 - Flow units based on fluid zone indicators (FZI) and reservoir quality indices (RQI)
- Be familiar with the possibilities offered by seismic attribute analysis, seismic inversion and AVO analysis

Duration : 5 Days (40 hours in total, assuming an 8-hour day)

