# Foundations of Special Core Analysis - SCAL

**Course Price**

£3050

**Course Description**

This course covers a broad overview current Special Core Analysis techniques, from native state analysis, clean state and restored state analyses, best practices and uncertainty in results.

By the end of the course, the participant will be able to oversee the entire process from sample preparation through to data interpretation

**Course Objectives**

**Who Should Attend**

Any Geologist, Geophysicist, Reservoir Engineer or Petro-physicist who will be involved in designing core analysis programs or using data obtained from them.
Any person who will be carrying out the analysis.
Any person who will be interpreting the results of the analysis.

**Prerequisites**
Basic understanding of core analysis and the value of data obtained from it.

**Course Content**

Introduction and summary of Core Analysis value

The Coring process

Overview of sample preparation

Sample preparation and basic data acquisition (Routine Core Analysis)

Pre-screening of material, both whole core and samples for SCAL testing

All standard SCAL techniques: Electrical Properties, Capillary Pressure, NMR, Relative Permeability, Wettability

Data Quality Control and Interpretation, including integration of petrophysical results

**Day 1**

Introduction, Basics of Core Analysis

Coring and Wellsite:

Coring Recommendations

Basic Core Handling

Sample Preparation

Cleaning and Drying Methods

Conventional Core Analysis

Porosity

Permeability

Overburden Effects

Review of Day 1

**Day 2**

QA/QC of Conventional Data

SCAL Program Design

Sample pre-screening

Electrical Properties

Archie Equations

Porosity Exponent ‘m’

Saturation Exponent ‘n’

Excess Conductivity

Review of Day 2

**Day 3**

Capillary Pressure

Mercury Injection

Ultra-centrifuge

Porous Plate

NMR

PSD determination

Application of Results

Wettability

Wettability Concepts

Amott and USBM

Effect of Wettability

Relative Permeability

Single Phase Permeability

Unsteady State Relative Permeability

Steady State Relative Permeability

Centrifuge Relative Permeability

Review of Day 3

**Day 4**

Whole Core

Rock Mechanics

History Matching and Simulation

Unconventional Analysis

Review of Day 4

**Day 5**

QA / QC of Scal Data

Petrophysical Techniques

Thin Section

SEM

XRD

Integration of Results

Course Review

**CPD Unit**

**Continuing Professional Development**

**35 HOURS CPD**