

Reservoir Simulation Principles and Practices Training

Course Price

£3050

Course Description

This training course will provide a comprehensive coverage of the simulation key topics, challenges, pitfalls and the approach to a quality result.

The participants will be trained in the methods and use of simulation software for practical exercises throughout this course.

Course Objectives

- Numerical physics of reservoir simulation.
- Data requirements for conducting a study.
- Current practice in using coarse and finely gridded models to incorporate heterogeneity.
- Simulation study approach which leads to a quality result.
- Different types of models available, i.e. compositional, dual porosity, etc.

Who Should Attend

This short course is designed for junior to mid-senior level reservoir engineers who want to “fast track” in reservoir simulation by a comprehensive overview of the key topics and practical aspects.

Course Content

- Formulation of equations
- Coordinate geometries and model types
- Reservoir simulator features
- Well modelling overview
- Building the model
- Defining initial conditions
- History matching
- Prediction



- Fine vs. coarse gridding, Upscaling, LGR, Heterogeneity modelling
- Pseudo functions, Vertical Equilibrium

- Compositional reservoir simulation
- Simulation of fractured reservoirs – numerical model, matrix-fracture exchange, recovery processes
- Simulation Walkthrough
- Overview of the simulation process: Conducting a study

Day 1

- * Introduction

- * Classical Analysis

- * Reservoir Simulation Overview

- * Formulation of Equations

Day 2

- * Data Preparation

- Data Description and Preparation

- Description of Input Data

Day 3

- * Gridding and Cross Bedding

- * Grid Orientation

- * Pseudofunctions

- * Upscaling

- * Vertical Equilibrium

Day 4

- * Simulation Walkthrough

- * History Matching

Day 5

- * Well Modelling

* Integrated Production System Modelling

CPD Unit

Continuing Professional Development

35 HOURS CPD