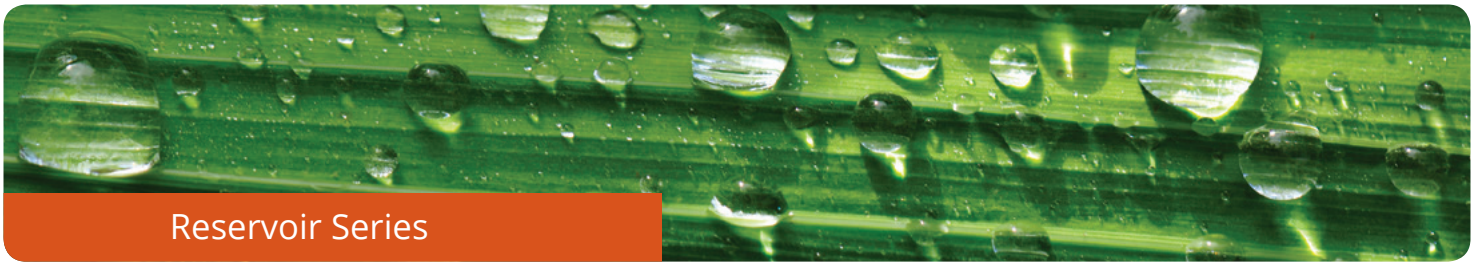


Reservoir Series

Reservoir Engineering

Designed for:
This course is designed for basic to intermediate reservoir engineers (0-5 years) and is also of benefit to geoscientists and other disciplines which interface with reservoir engineers in their daily work.

Duration
(days)

1 2 3 4 5
flexible

Learning Level:
Skills
Knowledge
Awareness

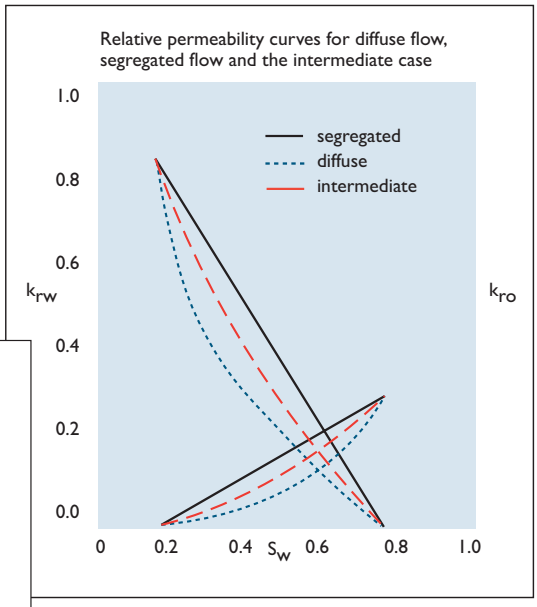
The case study material covered in this course has been chosen to illustrate the application of reservoir engineering tools and techniques in a development planning and reservoir management context.

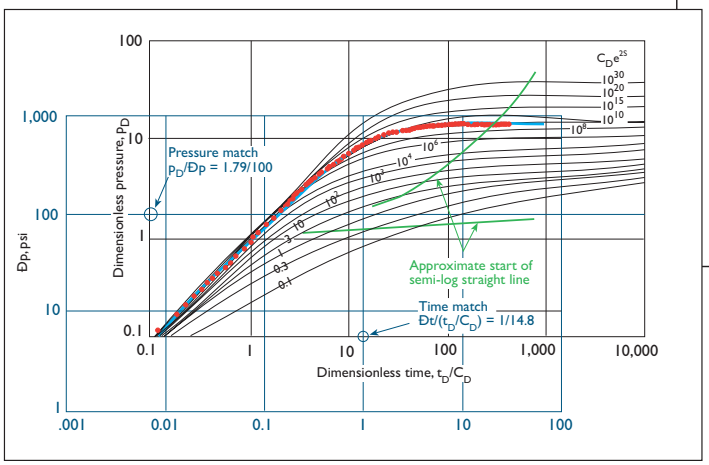
The course draws out the key interfaces between reservoir engineering and geoscience disciplines. Worked examples show the use of data and techniques employed during the construction and maintenance of a reservoir model. Separate examples are used for gas field reservoir engineering and well testing.

This process will follow specific phases of:

- building a static reservoir model
- fluid characterisation
- developing a dynamic model
- reservoir management during the producing life of a field

The reservoir engineering course makes significant use of an offshore case study with a sizeable oil reservoir.

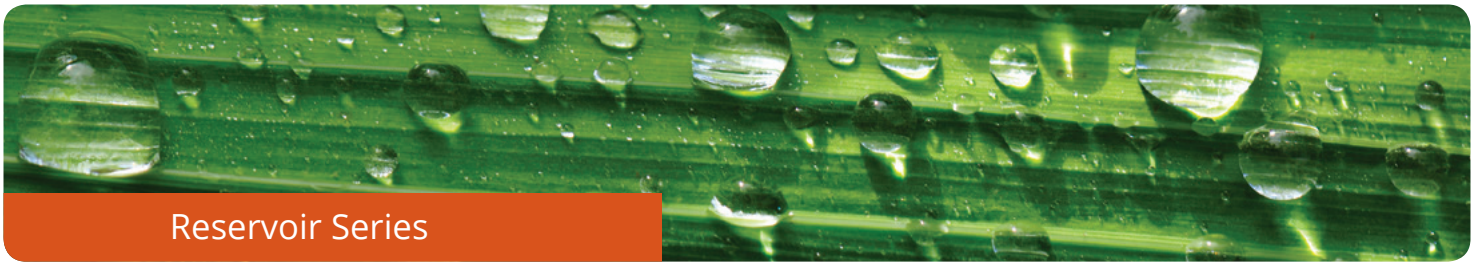




Early Development
E&P Overview
Reservoir
Wells

Business & Risk
Open Air
Coaching
Master Class

TRACS



Reservoir Series

Reservoir Engineering continued

Course Content:

The Static Reservoir Model

- Reservoir zonation
- Defining fluid contacts
- RFT pressure measurements and Pressure vs Depth relationships
- Capillary pressures and saturation-height relationships

Fluid Properties

- Fluid sampling
- Analysis of fluid samples
- Chemical properties of hydrocarbons
- Physical properties of hydrocarbons
- Making use of the PVT report

Developing the Dynamic Reservoir Model

- Fluid displacement
- Dynamic well performance
- Upscaling from the core scale
- Reservoir simulation

Reservoir Management

- Reservoir monitoring
- Production forecasting
- History matching in reservoir simulation
- Enhanced Oil Recovery techniques

Well Test Analysis

- Uses of well testing
- Planning a well test
- Well testing operations
- Well test analysis
- Analysis principles
- Analysis techniques
- Special test types

Course Duration:

Duration is 3 or 5 days depending on the level of teaching requirement

Courses available from this series:

Basic Geoscience
Introduction to Geophysics
Geological Application of Well Logs
Openhole Petrophysical Interpretation
Core Description
Production Geology
Applied Production Geology
Reservoir Model Design
Fractured Reservoir Characterisation
Geology for Drilling Engineers
Reservoir Engineering
Applied Reservoir Engineering
Well Test Design & Analysis
Logging While Drilling
Basin Analysis
Geomechanics

Course Tutors

Mark Cook BSc, MBA
Main Series tutoring: Early Development, Business & Risk, Reservoir Engineering
Industry experience: 40 years, reservoir engineering economics and risk analysis
Career background: Shell, AGR (VP) and TRACS
Personal: Author, 'Hydrocarbon Exploration and Production' (Elsevier 2008), 'Petroleum Economics and Risk Analysis' (Elsevier 2021), SPE distinguished lecturer on Risk Analysis

John Gallivan PhD
Main Series tutoring: Reservoir, Business & Risk, Master Class: Horizontal Wells
Industry experience: over 35 years, reservoir and petroleum engineering, economics
Career background: BNOC, Britoil, BP, Heriot-Watt, AGR and TRACS
Personal: Former TRACS Director, Moscow

Richard Oxlade MEng
Main Series tutoring: Reservoir, Early Development, Master Class (business)
Industry experience: over 30 years, commercial, reservoir engineering
Career background: BP, AGR and TRACS
Personal: Global advisor, business planning & economic analysis

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