



DRILLING, WELLS AND RESERVOIR ENGINEERING

Reservoir Engineering Principles and Practice

5 day course

Classroom, online or in-house

Course overview

Every number on a production forecast, from initial rate to ultimate recovery, starts with reservoir engineering fundamentals that are easy to state and easy to misapply. This programme builds those fundamentals for engineers and geoscientists taking on reservoir responsibilities. Delegates begin with rock properties, fluid properties and the phase behaviour of oil, gas and water, then move to volumetric estimates of oil and gas initially in place. Darcy's law, radial flow and productivity index lead into the drive mechanisms: solution gas, gas cap, water drive and compaction. Material balance is developed for oil and gas reservoirs, with aquifer influx models. Immiscible displacement, fractional flow and the Buckley Leverett method close the work. Delegates leave able to identify a reservoir's drive, estimate recovery factors and carry out first pass material balance calculations.

What you will learn

- Describe the rock and fluid properties that control reservoir performance
- Calculate oil and gas initially in place volumetrically
- Apply Darcy's law to linear and radial flow
- Identify reservoir drive mechanisms from pressure and production behaviour
- Perform material balance calculations for oil and gas reservoirs
- Estimate aquifer influx using standard models
- Apply fractional flow and Buckley Leverett theory to displacement
- Estimate recovery factors for different drive mechanisms

Who should attend

- Junior reservoir engineers
- Production and petroleum engineers
- Geologists and geophysicists moving into reservoir roles
- Facilities engineers needing reservoir understanding
- Technical staff at petroleum regulators

Course outline

- 01 Reservoir rock properties
- 02 Reservoir fluids and phase behaviour
- 03 Volumetric in place estimates
- 04 Fluid flow in porous media
- 05 Drive mechanisms
- 06 Material balance for oil reservoirs
- 07 Material balance for gas reservoirs
- 08 Aquifer influx
- 09 Immiscible displacement and recovery

Upcoming dates

Dates	Venue	Format	Fee per delegate
9 to 13 November 2026	Johannesburg, South Africa	Classroom	R19,950
14 to 18 December 2026	Online	Online	R8,500
15 to 19 March 2027	Pretoria, South Africa	Classroom	R19,950



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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