



DRILLING, WELLS AND RESERVOIR ENGINEERING

Directional, Horizontal and Multilateral Drilling

5 day course

Classroom, online or in-house

Course overview

A horizontal well that lands two metres above the target sand, or collides with a neighbour on a crowded pad, has failed before production begins. This course covers how wells are steered and how their position is known. Delegates work through well path geometry, build and turn rates, the minimum curvature method and dogleg severity, then the tools: bent motors, rotary steerable systems and MWD survey packages. Survey error models, ellipses of uncertainty and anti collision separation rules follow, along with geosteering in thin reservoirs. Extended reach and horizontal limits set by torque, drag and buckling are examined before the final sessions on multilateral junction types and the TAML classification of their complexity. Delegates leave able to plan, survey and assess a deviated or multibranch well.

What you will learn

- Calculate well trajectories using the minimum curvature method
- Design build, hold and drop profiles with achievable dogleg severity
- Select between bent motor and rotary steerable systems for a given section
- Interpret survey error models and ellipses of uncertainty
- Apply anti collision separation factors on multiwell pads
- Plan geosteering for landing and staying in a thin target
- Evaluate torque, drag and buckling limits on horizontal and extended reach wells
- Select multilateral junction designs using the TAML classification

Who should attend

- Directional drillers and directional drilling coordinators
- Drilling engineers planning deviated and horizontal wells
- Well placement and geosteering geologists
- MWD and survey management engineers
- Asset engineers evaluating multilateral development options

Course outline

- 01 Reasons for deviation and well path geometry
- 02 Survey calculation and dogleg severity
- 03 Steerable motors and rotary steerable systems
- 04 MWD surveying and survey quality control
- 05 Positional uncertainty and anti collision
- 06 Horizontal landing and geosteering
- 07 Extended reach limits: torque, drag and buckling
- 08 Multilateral junction types and completion options

Upcoming dates

Dates	Venue	Format	Fee per delegate
4 to 8 January 2027	Nairobi, Kenya	Classroom	USD 1,325
25 to 29 January 2027	Online	Online	R8,500
15 to 19 March 2027	Lagos, Nigeria	Classroom	USD 1,325



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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