JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Geosteering and Lateral Well Navigation Training Course

9 – 13 August 2027
Dar es Salaam

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Geosteering and Lateral Well Navigation Training Course

Ref: 2376_89228 **Date:** 9 – 13 August 2027 **Location:** Dar es Salaam **Fees:** 7900 GBP

Geosteering and Lateral Well Navigation is a 1-week training course for geologists, geosteerers and drilling engineers who place horizontal wells, built around a well-specific geosteering plan that each participant completes. Reservoir contact now decides how much a lateral is worth, so organisations need staff who steer from logs with confidence. Jupiter Prime Training presents geosteering and lateral well navigation as a shared discipline between subsurface and drilling teams.

Why Geosteering and Lateral Well Navigation Matters Now

Three forces shape geosteering today. Longer laterals in thinner and more faulted reservoirs leave less room for error. Deep-reading logging-while-drilling LWD tools and remote operations centres deliver more data than one person can absorb. Asset owners and partners expect each foot of lateral to stay in pay and to be defended with evidence. Good steering brings reservoir contact and fewer sidetracks; poor steering loses production. The course rests on structural modelling, log correlation and stratigraphic positioning.

Who Gains Most from Geosteering and Lateral Well Navigation

- Wellsite and remote geosteering staff responsible for interpreting LWD data and proposing steering changes
- Development geologists responsible for target definition and the pre-well structural model
- Directional drilling and well engineers responsible for trajectory control and dogleg limits
- Petrophysicists responsible for resistivity and gamma ray interpretation along the lateral
- Reservoir engineers responsible for linking lateral placement to drainage and completion design

An asset team that sends its geologist, geosteerer and directional engineer together gains most, because steering calls depend on all three reading the same picture.

Geosteering and Lateral Well Navigation Capabilities

Participants turn noisy measurements into steering calls that hold up when the drill bit meets an unexpected fault or a thinning sand.

- Build a pre-well offset model with expected dip and marker depths — target landing decision
- Apply gamma ray and resistivity correlation to locate the bit in the stratigraphy — steering geologist
- Assess azimuthal image dips and boundary distances — up or down steering call
- Weigh trajectory corrections against dogleg severity and drilling risk — directional engineer

- Specify contingency triggers for faults, pinch-outs and fluid contacts — asset team
- Communicate steering recommendations clearly during live operations — drilling supervisor

Key Geosteering and Lateral Well Navigation Terms

- Geosteering — adjusting a well trajectory in real time from downhole geological measurements to keep it within a chosen reservoir interval.
- Landing point — the place where the build section reaches the target layer at the planned inclination before the lateral begins.
- Apparent dip — the dip of a bed measured along the well path, which differs from true dip.
- Azimuthal image — a borehole picture built from LWD readings around the tool face, revealing bed crossings and their orientation.
- Distance to boundary — the inverted distance from the tool to a resistivity contrast above or below the wellbore.
- Typelog — a reference log from an offset well used to correlate the lateral's measurements with the stratigraphic column.

Geosteering and Lateral Well Navigation Day by Day

Day 1: Subsurface Context and Pre-Well Modelling

- Offset Well Typelog Selection — Which Reference Column Guides Correlation
- Structural Surface and Dip Mapping — Expected Formation Tilt Along the Lateral
- Target Window Definition — Vertical Tolerance Agreed With Reservoir Engineers
- Uncertainty Envelope for Marker Depths — Landing Risk and Pilot Hole Need
- Planned Trajectory and Dogleg Limits — What the Drilling Assembly Can Deliver

Day 2: Reading Logging-While-Drilling Data

- Gamma Ray Signature Correlation — Locating the Bit Within Stratigraphy
- Propagation Resistivity Responses and Polarisation Horns — Bed Crossing Recognition
- Density and Neutron Images — Porosity Changes and Fracture Indications
- Survey Accuracy and Measurement Depth Errors — Trust in Position
- Sensor Offset From Bit — Lag Between Reading and Steering Response

Day 3: Azimuthal and Deep-Reading Imaging

- Image Sinusoid Picking — True Dip and Crossing Direction Estimates
- Up-Down Curve Separation — Approach to Roof or Floor of Target
- Boundary Mapping Inversion Displays — Distance to Contrasts Above and Below
- Fault Throw Recognition on Images — Re-Finding the Target After Displacement
- Fluid Contact Detection Ahead of Bit — Avoiding Water or Gas Zones

Day 4: Real-Time Steering Decisions

- Stratigraphic Model Updating While Drilling — Revised Dip and Target Projection
- Steering Decision Matrix — Hold, Build or Drop Recommendations
- Rotary Steerable and Motor Response Planning — Achievable Correction Rates
- Communication Protocol Between Rig and Remote Centre — Clear Ownership of Calls
- Out-of-Zone Recovery Options — Sidetrack Versus Steer-Back Trade-Offs

Day 5: Practising the Well-Specific Geosteering Plan

- Simulated Lateral With Live Log Feed — Applying Correlation and Imaging Together
- Fault Encounter Scenario — Applying Recovery Options Under Time Pressure
- Post-Well Reconciliation of Model Versus Actual — Lessons for Next Lateral
- Reservoir Contact and Net-to-Gross Reporting — Placement Quality for Partners
- Well-Specific Geosteering Plan — Targets, Triggers and Roles for Next Well

Applying Geosteering and Lateral Well Navigation After the Course

- Rebuild the pre-well typelog and dip model for the next scheduled lateral and share its uncertainty envelope with the drilling team.
- Run a post-well reconciliation on a recent lateral, comparing modelled and actual stratigraphic position and recording steering lessons.

Geosteering and Lateral Well Navigation Questions FAQ

What is geosteering and lateral well navigation and why does it matter now?

It is the practice of steering a horizontal well from downhole geological readings so the lateral stays in the best rock. It matters now because laterals are longer, targets thinner and partners judge wells by reservoir contact.

Which roles gain most from geosteering and lateral well navigation?

Geosteerers, development geologists, directional engineers and petrophysicists gain most.

How does geosteering and lateral well navigation differ from a general directional drilling course?

It focuses on geological position rather than drilling mechanics. Directional drilling covers tools and trajectory design; this subject covers correlation, imaging and stratigraphic judgement.

What do you bring back from geosteering and lateral well navigation?

You bring back a geosteering plan for a real or representative well. It sets out the typelog, target window, triggers and call owners for shale, carbonate or sandstone laterals.

Geosteering and Lateral Well Navigation: The Way Forward

The well-specific geosteering plan first informs where the next lateral should land and how much vertical tolerance it carries. Geosteerers, directional engineers and asset geologists use it during drilling as the shared reference for every steering call. After first use, revisit the contingency triggers, since real fault encounters show which thresholds need adjusting.