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COURSE BROCHURE

Drilling Operations Planning and Well Delivery Training Course

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Registered in the United Kingdom and Saudi Arabia

Drilling Operations Planning and Well Delivery Training Course

Drilling Operations Planning and Well Delivery is a 2-week advanced training course for drilling engineers, drilling supervisors and well planners who turn subsurface targets into wells drilled safely and on time, and who build a well delivery plan for a real or case well. Rig time is the largest line in most well budgets, so planning quality now decides project returns. Jupiter Prime Training delivers this course.

Why Drilling Operations Planning and Well Delivery Matters Now

Three forces shape well construction today. Longer, more deviated wells into depleted reservoirs narrow the mud weight window. Real-time data lets planners compare rigs and wells. Experienced drillers are retiring faster than they are replaced, so lessons must live in documents rather than memories. Poor planning shows up as stuck pipe, losses and well control events. The course rests on the two-barrier principle, offset well analysis and structured after-action reviews.

Who Gains Most from Drilling Operations Planning and Well Delivery

- Engineers responsible for casing, cementing and fluid designs for new wells
- Supervisors responsible for safe execution of the drilling plan at the rig site
- Planners responsible for trajectories, time estimates and the basis of design
- Specialists responsible for drilling performance reporting and benchmarking
- Leads responsible for well control readiness and barrier verification

An asset drilling team gains most when its office engineers and rig supervisors attend together, since office choices are only as good as rig-floor execution.

Drilling Operations Planning and Well Delivery Capabilities

Participants leave able to connect each design choice for casing, cement and fluid to the risks it controls on the rig.

- Calculate casing setting depths and kick tolerance for each hole section — the casing scheme approval
- Design cement placement and barrier verification steps — the well integrity sign-off
- Specify drilling fluid properties that hold equivalent circulating density inside the window — the mud engineer and rig supervisor
- Assess hole cleaning and stuck pipe risk by section — the go or stop decision while drilling
- Analyse time breakdowns and invisible lost time against offset wells — the drilling manager's performance targets
- Build after-action reviews that feed the next basis of design — the planning team on the following well

Key Drilling Operations Planning and Well Delivery Terms

- Mud weight window — The range between pore pressure and fracture gradient within which the well can be drilled without kicks or losses.
- Kick tolerance — The largest influx volume a hole section can take without fracturing the weakest formation.
- Equivalent circulating density — The effective fluid density at a depth while pumping, including annular friction.
- Non-productive time — Rig time lost to unplanned events such as stuck pipe, equipment failure or waiting.
- Invisible lost time — Time lost inside planned operations through slow connections, tripping or drilling.
- Well barrier — A tested envelope of equipment, cement or fluid that prevents uncontrolled flow from the reservoir to surface.

Drilling Operations Planning and Well Delivery Day by Day

Day 1: Well Delivery Context and Forces

- Well Delivery Process Phases — Where Planning Decisions Lock In Cost
- Offset Well Data Review — Selecting Analogues for the New Well
- Rig Market and Crew Availability — Timing the Spud Decision
- Subsurface Uncertainty Ranges — Setting Contingency in the Well Design
- Stakeholder Interfaces with Geology and Completions — Agreeing Handover Points

Day 2: Well Trajectory and Pore Pressure Planning

- Pore Pressure and Fracture Gradient Prediction — Defining the Mud Weight Window
- Directional Profile Selection — Balancing Reach Against Torque and Drag
- Anti-Collision Scanning — Protecting Neighbouring Wellbores on Crowded Pads
- Wellbore Stability Assessment — Choosing Inclination and Azimuth Limits
- Basis of Design Document — Recording Assumptions for Later Challenge

Day 3: Casing Design and Setting Depths

- Casing Setting Depth Selection — Covering Kick Tolerance and Weak Zones
- Burst, Collapse and Tension Load Cases — Sizing Each Casing String
- Design Safety Factors — Accepting Margins Against Grade and Weight
- Connection Selection — Matching Thread Type to Load and Environment
- Casing Wear Allowance — Planning for Long Rotating Hours

Day 4: Cementing Design and Zonal Isolation

- Slurry Design and Thickening Time — Fitting Placement to Temperature
- Centraliser Placement Modelling — Achieving Stand-Off in Deviated Sections
- Mud Removal and Spacer Design — Preventing Channels Behind Pipe
- Cement Bond Evaluation Logs — Deciding Whether Remedial Squeeze Is Needed
- Barrier Verification Testing — Accepting Cement as a Well Barrier

Day 5: Drilling Fluids and Hydraulics

- Water-Based and Oil-Based Mud Selection — Weighing Inhibition Against Waste Handling
- Rheology Control — Keeping Equivalent Circulating Density Inside the Window
- Bit Hydraulics Optimisation — Choosing Nozzles and Flow Rate
- Lost Circulation Material Strategy — Preparing Responses Before Losses Start
- Solids Control Equipment Set-Up — Protecting Fluid Properties and Pumps

Day 6: Hole Cleaning and Stuck Pipe Prevention

- Cuttings Transport in High-Angle Sections — Setting Minimum Flow and Rotation
- Cuttings Bed Indicators — Reading Torque, Drag and Pressure Trends
- Differential Sticking Mechanisms — Limiting Static Time Across Permeable Zones
- Pack-Off and Mechanical Sticking Signs — Deciding When to Stop and Circulate
- Stuck Pipe Freeing Sequence — Jarring, Spotting Fluids and Back-Off Choices

Day 7: Well Control and Barrier Philosophy

- Kick Tolerance Calculation — Confirming Each Hole Section Is Drillable
- Kick Detection Indicators — Trip Sheets, Pit Gain and Flow Checks
- Driller's Method and Wait-and-Weight Method — Selecting the Kill Approach
- Two-Barrier Principle and Barrier Diagrams — Agreeing Status at Each Operation
- Blowout Preventer Testing Regime — Scheduling Function and Pressure Tests

Day 8: Drilling Performance Analysis

- Rate of Penetration Drivers — Separating Formation Effects from Practices
- Mechanical Specific Energy Monitoring — Spotting Dysfunction While Drilling
- Invisible Lost Time Benchmarking — Comparing Connection and Tripping Times
- Daily Drilling Report Coding — Making Time Breakdowns Comparable Across Wells
- Technical Limit Planning — Setting Stretch Targets with the Rig Crew

Day 9: Non-Productive Time Reduction and Learning

- Non-Productive Time Root Cause Classification — Prioritising the Costliest Events
- Equipment Failure Trending — Agreeing Maintenance Changes with Contractors
- Drill-the-Well-on-Paper Sessions — Rehearsing Critical Steps Before Spud
- After-Action Reviews — Capturing Lessons Before the Rig Moves
- Lessons Database Structure — Feeding Findings into the Next Basis of Design

Day 10: Practising the Well Delivery Plan

- Casing and Fluid Plan Integration — Applying Earlier Design Choices to One Case Well
- Hole Cleaning and Stuck Pipe Risk Register — Applying Section Risks to the Case Well
- Well Control Bridging Document — Applying Barrier Rules Across Rig and Operator
- Performance Targets and Key Indicators — Applying Benchmarks to the Time-Depth Curve
- Well Delivery Plan Presentation — Defending the Plan to a Peer Panel

Applying Drilling Operations Planning and Well Delivery After the Course

- Lead a drill-the-well-on-paper session for the next well, covering casing points and stuck pipe triggers.
- Run an after-action review on a recent well and write its non-productive time lessons into the next basis of design.

Drilling Operations Planning and Well Delivery Questions FAQ

What is drilling operations planning and well delivery, and why does it matter now?

It is the discipline of turning a subsurface target into a safe, efficient well through design, risk planning and performance review. It matters now because wells are longer and more complex, rig time is costly and experienced staff are retiring.

Which roles gain most from drilling operations planning and well delivery?

Drilling engineers, rig supervisors and well planners gain most.

How does drilling operations planning and well delivery differ from a drilling fundamentals course?

It assumes you already know rig equipment and basic drilling. It links design choices, well control and performance data to decisions on the next well.

What do you bring back from drilling operations planning and well delivery?

You bring back a well delivery plan for a case well, covering casing, cement, fluids, hole cleaning, barriers and performance targets and a reusable after-action review method.

Drilling Operations Planning and Well Delivery: The Way Forward

The well delivery plan built during the course first informs the casing and fluid choices for the next well. Engineers, supervisors and contractor crews use it to agree targets before spud. After its first use, revisit the stuck pipe triggers and time targets against the actual time-depth curve, and let the after-action review reshape the next plan.