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COURSE BROCHURE

Artificial Lift Selection and Nodal Analysis Training Course

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Artificial Lift Selection and Nodal Analysis Training Course

Artificial Lift Selection and Nodal Analysis is a 1-week training course for production and petroleum engineers who decide how wells are lifted, sized and monitored, and it ends with a lift selection and nodal model dossier for one field. As reservoirs deplete and water cuts rise, the choice and tuning of lift methods decides how much oil a field still delivers at an acceptable operating cost. The course is delivered by Jupiter Prime Training.

Why Artificial Lift Selection and Nodal Analysis Matters Now

Three forces shape lift decisions today. Maturing reservoirs lose pressure and produce more water and gas, so wells that once flowed naturally need help. Asset owners demand lower energy use and fewer well interventions, which raises the cost of a poorly matched pump or valve string. Digital well surveillance now streams downhole and surface data that few teams turn into decisions. An organisation that matches lift method to inflow, tubing and facilities gains steady rates and longer run life; one that does not faces failed pumps, unstable gas lift and deferred barrels. The course rests on inflow performance relationship IPR and vertical lift performance VLP modelling within systems nodal analysis.

Who Gains Most from Artificial Lift Selection and Nodal Analysis

- Engineers responsible for well performance models, inflow tests and rate forecasts
- Engineers responsible for choosing and sizing gas lift, rod pump or submersible pump installations
- Engineers responsible for daily surveillance of lifted wells and their alarms
- Engineers responsible for well intervention candidates and workover justifications
- Engineers responsible for linking subsurface deliverability with surface facility limits

An asset or field team gains most when its reservoir, production and operations engineers attend together and leave sharing one well model and one set of selection criteria.

Artificial Lift Selection and Nodal Analysis Capabilities

Participants turn well test data, fluid properties and completion details into lift decisions that hold up when reservoir pressure falls.

- Build an inflow performance relationship from test data — the rate target agreed with reservoir engineering
- Calculate the operating point with nodal analysis — tubing, choke and lift sizing decisions
- Weigh lift methods against well, fluid and site screening criteria — the method recommendation to asset leadership
- Design a gas lift valve string and injection rate — the gas allocation across a well cluster
- Specify a rod pump unit, rod string and pump size — the purchase and installation decision

- Apply surveillance diagnostics such as dynamometer cards and lift gas curves — the intervention priority list for operations

Key Artificial Lift Selection and Nodal Analysis Terms

- Inflow performance relationship IPR — the curve linking flowing bottomhole pressure to the rate a reservoir delivers into the wellbore.
- Vertical lift performance VLP — the curve showing the bottomhole pressure needed to lift a given rate through the tubing to surface.
- Nodal analysis — a method that splits the production system at a node and finds the rate where inflow and outflow pressures meet.
- Productivity index — the rate a well produces per unit of pressure drawdown, used to compare and forecast well capacity.
- Gas lift unloading — the sequence in which upper valves open and close to bring injection gas down to the operating valve.
- Dynamometer card — a plot of rod load against position over a pump stroke, used to diagnose rod pump conditions.

Artificial Lift Selection and Nodal Analysis Day by Day

Day 1: Reservoir Inflow and Well Deliverability

- Productivity Index and Darcy Inflow — Rate Expectations for New Wells
- Vogel and Composite IPR Curves — Forecasts Below Bubble Point
- Skin, Damage and Stimulation Effects — Candidate Wells for Treatment
- Well Test and Production Test Validation — Trust in Model Inputs
- Reservoir Pressure Decline Profiles — Timing of Lift Installation

Day 2: Tubing Outflow and Nodal Modelling

- Multiphase Flow Correlations — Choice of Pressure Loss Model
- Vertical Lift Performance Curves — Tubing Size and Completion Choice
- Operating Point and Stability Checks — Risk of Liquid Loading
- Choke and Flowline Sensitivity Runs — Surface Back-Pressure Limits
- Model Matching to Measured Rates — Confidence in Optimisation Cases

Day 3: Lift Method Screening and Selection

- Screening Matrix for Depth, Rate and Fluid — Shortlist of Lift Methods
- Gas, Sand and Viscosity Constraints — Equipment Exclusions per Well
- Power, Gas Supply and Site Footprint — Facility Readiness for Each Method
- Life-Cycle Cost and Run-Life Comparison — Method Recommendation to Leadership
- Submersible Pump Fit Check in the Selection — When to Refer to Pump Specialists

Day 4: Gas Lift and Rod Pump Design and Surveillance

- Gas Lift Valve Spacing and Unloading Design — Injection Pressure Margins
- Lift Gas Performance Curves and Allocation — Gas Shared Across Wells
- Rod String, Pumping Unit and Pump Sizing — Load and Stroke Limits
- Dynamometer Card Interpretation — Rod Pump Failure Diagnosis
- Well Surveillance Dashboards and Alarms — Intervention Priority Ranking

Day 5: Practising the Lift Selection and Nodal Model Dossier

- Field IPR and VLP Rebuild From Day One Data — Base Case Agreement
- Screening Matrix Applied to Three Wells — Method Shortlist per Well
- Gas Lift and Rod Pump Design Cases — Equipment Specification Drafts
- Surveillance Plan With Diagnostic Triggers — Operations Hand-Over
- Lift Selection and Nodal Model Dossier — Field Recommendation Ready to Present

Applying Artificial Lift Selection and Nodal Analysis After the Course

- Rebuild the nodal model for one underperforming well, match it to recent tests and present the operating point gap to the field team.
- Run the lift screening matrix across a well cluster and propose which wells move to gas lift or rod pump in the next drilling or workover cycle.

Artificial Lift Selection and Nodal Analysis Questions FAQ

What is Artificial Lift Selection and Nodal Analysis and why does it matter now?

It is the practice of modelling well inflow and outflow to choose and size the lift method for each well. Maturing fields lose pressure and gain water, so matching lift to deliverability protects rates, energy use and equipment run life.

Which roles gain most from Artificial Lift Selection and Nodal Analysis?

Production and petroleum engineers who model wells, size lift equipment or watch lifted wells gain most. You also benefit if you justify workovers or link reservoir deliverability with surface facility limits in oil, gas or water-flood operations.

How does Artificial Lift Selection and Nodal Analysis differ from a submersible pump course?

It covers the choice between lift methods rather than one pump technology. A course on submersible pumps goes deep into pump stages, motors and cables, while this one compares methods, models whole wells and designs gas lift and rod pump systems.

What do you bring back from Artificial Lift Selection and Nodal Analysis?

You bring back a field dossier with matched well models, a method shortlist per well, draft gas lift and rod pump specifications and a surveillance plan with diagnostic triggers that operations can apply in the following weeks.

Artificial Lift Selection and Nodal Analysis: The Way Forward

The lift selection and nodal model dossier first informs which wells change lift method in the next workover cycle. Asset leaders use it to approve equipment and gas allocation, while operations use its triggers for surveillance. After the first run, revisit the inflow curves as reservoir pressure declines, because yesterday's best match quietly becomes tomorrow's undersized pump.