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COURSE BROCHURE

Surface Wellhead and Christmas Tree Equipment Training Course

13 – 17 December 2026
Muscat

Surface Wellhead and Christmas Tree Equipment Training Course

Ref: 2999_113704 **Date:** 13 – 17 December 2026 **Location:** Muscat **Fees:** 6500 GBP

Surface wellhead and christmas tree equipment is a 1-week training course for well site, maintenance and completion engineers who install, test and service the pressure-containing equipment at the top of each well, ending in a wellhead and tree inspection and maintenance sheet. Ageing wells, higher pressures and corrosive fluids put more strain on seals, hangers and valves than when many fields were developed. Jupiter Prime Training delivers this surface wellhead and christmas tree equipment course.

Why Surface Wellhead and Christmas Tree Equipment Matters Now

The wellhead and tree form the last surface barrier between reservoir pressure and people on site, so their condition sets the safety margin of every well. Many fields now run wells far beyond their original design life, with seals and gate valves that have seen decades of thermal cycling and sour or sandy flow. Meanwhile, experienced wellhead technicians are fewer, and maintenance budgets favour planned work over breakdown repairs. A well stock with tested, documented wellheads avoids leaks and unplanned shut-ins; a neglected one risks releases, stuck valves and costly emergency interventions.

Who Gains Most from Surface Wellhead and Christmas Tree Equipment

- Engineers who specify wellhead sections and hanger systems for new wells
- Engineers who supervise wellhead installation and pressure testing on site
- Maintenance engineers who plan valve greasing, servicing and overhaul
- Completion engineers who land tubing hangers and nipple up trees
- Integrity engineers who track seal tests and leak history across the well stock

Field maintenance groups gain most when their well site, maintenance and completion engineers attend together.

Surface Wellhead and Christmas Tree Equipment Capabilities

Participants trace pressure containment from the conductor housing up to the tree cap and match each component to its test and service routine.

- Specify wellhead sections and hangers for a casing plan — well design review
- Assess pressure and temperature ratings against well conditions — equipment selection
- Apply seal and body test sequences after installation — barrier acceptance
- Design a valve servicing and greasing schedule — maintenance planner
- Calculate choke sizing effects on flowing pressure — production engineer
- Build an inspection record for each well — integrity reporting

Key Surface Wellhead and Christmas Tree Equipment Terms

- Wellhead section — a spool or housing that suspends one casing string and seals its annulus at surface.
- Casing hanger — the device that supports a casing string's weight inside a wellhead section and seals around it.
- Tubing hanger — the component that suspends the production tubing and provides a seal and ports for control lines.
- Christmas tree — the assembly of valves, chokes and fittings above the wellhead that controls flow from the well.
- Master valve — the main valve on the tree that shuts in the well below the flow wing.
- Pressure rating — the maximum working pressure a component is designed and tested to contain safely.

Surface Wellhead and Christmas Tree Equipment Day by Day

Day 1: Wellhead Architecture and Ratings

- Wellhead Stack-Up From Conductor to Tubing Head — Matching the Casing Plan
- Pressure and Temperature Rating Classes — Selecting for Well Conditions
- Material Classes for Sour and Corrosive Service — Seal and Body Choices
- Unitised Versus Spool Wellheads — Rig Time and Flexibility Trade-Offs
- Annulus Access Ports and Valves — Monitoring and Bleed-Off Capability

Day 2: Casing and Tubing Hangers

- Slip and Mandrel Casing Hangers — Load Support and Seal Selection
- Pack-Off and Seal Assembly Installation — Annulus Isolation Checks
- Tubing Hanger Designs and Control Line Ports — Completion Compatibility
- Back-Pressure Valve and Plug Profiles — Isolation During Tree Work
- Hanger Landing and Lock-Down Procedures — Preventing Movement Under Load

Day 3: Tree Valves and Chokes

- Gate Valve Construction and Sealing — Master, Wing and Swab Functions
- Actuated Valves and Surface Safety Systems — Shut-In Response
- Adjustable and Positive Chokes — Flow Control and Erosion Wear
- Tree Configuration Options — Single, Dual and Composite Block Trees
- Flange, Clamp and Ring Gasket Connections — Leak-Tight Make-Up

Day 4: Testing and Maintenance

- Body and Seal Pressure Test Sequences — Acceptance After Installation
- Valve Greasing and Servicing Intervals — Preventing Seized Gates
- Leak Detection on Seals and Connections — Field Diagnosis Steps
- Seal Energising and Injection Repairs — Restoring Annulus Isolation
- Valve Replacement Under Pressure — Isolation Plan and Safe Execution

Day 5: Practising the Wellhead and Tree Inspection and Maintenance Sheet

- Equipment Register for One Well — Applying Ratings and Hanger Data
- Test History Review — Applying Seal and Body Test Results
- Valve Condition Scoring — Applying Greasing and Leak Findings
- Maintenance Task Frequencies — Matching Risk to Service Intervals
- Wellhead and Tree Inspection and Maintenance Sheet — Finalising Checks and Actions

Applying Surface Wellhead and Christmas Tree Equipment After the Course

- Lead a valve condition review on one group of wells using greasing records and leak history.
- Run a pressure test record audit on recently completed wells to confirm seal acceptance.

Surface Wellhead and Christmas Tree Equipment Questions FAQ

What is surface wellhead and christmas tree equipment and why does it matter now?

It is the pressure-containing hardware at the top of a well, from casing housings to tree valves and chokes. It matters now because many wells run past their design life and their seals and valves need closer care.

Which roles gain most from surface wellhead and christmas tree equipment?

Well site, maintenance and completion engineers gain most. You benefit if you specify wellheads, supervise installation and testing, land tubing hangers or plan valve servicing.

How does surface wellhead and christmas tree equipment differ from a general valve technology course?

It covers the whole wellhead system, not valves alone. A valve technology course spans plant valves; this one deals with wellhead sections, hangers, tree valves, chokes and the testing that confirms well barriers.

What do you bring back from surface wellhead and christmas tree equipment?

You bring back an inspection and maintenance sheet for one well, listing components, ratings, test history, valve condition and service intervals.

Surface Wellhead and Christmas Tree Equipment: The Way Forward

The wellhead and tree inspection and maintenance sheet first informs the next maintenance round and which valves to service or replace. Well site supervisors, maintenance planners and integrity engineers all use it. After the first round, compare recorded leaks and stuck valves with the planned intervals, and adjust frequencies for wells with harsher flowing conditions.