JUPITER PRIME
Consulting • Training • Advisory
جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Maintenance Performance and Failure Data Analytics Training Course

28 February – 4 March 2027
Doha

Maintenance Performance and Failure Data Analytics Training Course

Ref: 2958_112177 **Date:** 28 February – 4 March 2027 **Location:** Doha **Fees:** 6500 GBP

Maintenance Performance and Failure Data Analytics is a 1-week training course for maintenance engineers, reliability analysts and planners who turn work order histories and failure records into a maintenance performance and failure analysis pack. Plant owners now expect evidence for every shutdown and strategy change, and it sits in records rarely analysed well. Jupiter Prime Training teaches Maintenance Performance and Failure Data Analytics as a route from records to decisions.

Why Maintenance Performance and Failure Data Analytics Matters Now

Three forces shape this subject today. Sensor-equipped equipment and digital work orders produce far more maintenance history than planners can read by hand. Finance and operations leaders ask for uptime, cost and backlog figures they can trust before approving budgets. Sites that analyse failure records well target the few assets that drive most downtime and defend their maintenance budgets with evidence; sites that do not keep repeating the same breakdowns. The course rests on widely used reliability engineering principles applied to real site records.

Who Gains Most from Maintenance Performance and Failure Data Analytics

- Engineers responsible for equipment reliability and recurring breakdown investigation
- Planners and schedulers responsible for backlog, work order quality and shutdown scope
- Analysts responsible for maintenance dashboards and monthly performance reporting
- Asset owners responsible for spare parts, renewal timing and maintenance budgets

A maintenance department that sends its planner, its reliability engineer and its reporting analyst together gains most, because all three then share one set of failure codes and metrics.

Maintenance Performance and Failure Data Analytics Capabilities

Participants learn to read maintenance history as evidence and present findings others can act on.

- Assess coding quality of work order and failure records — the planner deciding what to clean
- Calculate uptime and repair metrics from raw history — the reliability engineer setting targets
- Build a ranked list of problem assets by downtime, cost and frequency — the asset owner choosing where to invest
- Apply trend and threshold checks to condition monitoring readings — the supervisor scheduling inspections
- Weigh maintenance strategy options with failure evidence — the manager approving changes

- Communicate maintenance performance monthly — operations and finance leaders

Key Maintenance Performance and Failure Data Analytics Terms

- Failure mode — the specific way an item stops performing its function.
- Mean time between failures — the average running time between breakdowns of a repairable item.
- Mean time to repair — the average time from a breakdown until the item is restored.
- Availability — the share of required time an asset was able to run.
- Bad actor — an asset causing a disproportionate share of downtime or repair cost.
- Maintenance backlog — the approved work not yet completed, usually measured in crew weeks.

Maintenance Performance and Failure Data Analytics Day by Day

Day 1: Maintenance Records as Evidence

- Work Order Lifecycle Fields — Which Records Count as Failure Evidence
- Asset Hierarchy and Functional Locations — Where Downtime Is Attributed
- Failure, Cause and Remedy Code Lists — Consistent Coding Across Crews
- Record Completeness Profiling — Which Gaps Block Reliable Measurement
- Maintenance Records Cleaning Log — Priorities for Correcting History

Day 2: Measuring Equipment Performance

- Uptime and Availability Calculations — Honest Comparison Between Sites and Units
- Mean Time Between Failures Estimation — Reliability Targets for Critical Equipment
- Mean Time to Repair Breakdown — Where Repair Delays Really Arise
- Planned Versus Reactive Work Ratios — Health of the Maintenance Approach
- Metric Dictionary and Calculation Rules — One Definition Used Everywhere

Day 3: Finding the Problem Assets

- Downtime and Cost Ranking Charts — Selecting the Few Assets Worth Attention
- Repeat Failure Detection — Breakdowns That Earlier Repairs Did Not Fix
- Failure Pattern and Age Analysis — Whether Failures Follow Wear or Chance
- Condition Monitoring Trend Charts — Early Warning Thresholds for Inspection Rounds
- Spare Parts Consumption Review — Stock Levels Linked to Failure History

Day 4: Turning Findings into Maintenance Decisions

- Strategy Choice by Failure Evidence — Preventive, Condition-Based or Run to Failure
- Interval Adjustment Using Failure History — Fewer Unnecessary Routine Tasks
- Backlog and Labour Capacity Analysis — Realistic Scheduling and Crew Sizing
- Life Cycle Repair Versus Renewal Comparison — Timing of Asset Replacement
- Predictive Indicator Selection — Which Readings Justify Further Analytics Effort

Day 5: Practising the Maintenance Performance and Failure Analysis Pack

- Cleaned Failure Records for a Case Plant — Applying the Coding Rules
- Performance Metric Set for the Case Plant — Applying the Metric Dictionary
- Problem Asset Ranking and Root Findings — Applying the Ranking Charts
- Peer Challenge of Strategy Proposals — Testing Evidence Before Approval
- Maintenance Performance and Failure Analysis Pack — Monthly Pack Ready to Share

Applying Maintenance Performance and Failure Data Analytics After the Course

- Profile the last twelve months of work orders for one production unit and agree a corrected failure code list.
- Produce a ranked problem asset chart for the same unit and take the top three assets to the next planning meeting.

Maintenance Performance and Failure Data Analytics Questions FAQ

What is Maintenance Performance and Failure Data Analytics and why does it matter now?

It is the practice of turning work orders, failure codes and condition readings into measured evidence about equipment. It matters now because leaders expect budget and shutdown decisions to rest on evidence rather than memory.

Which roles gain most from Maintenance Performance and Failure Data Analytics?

Reliability engineers, maintenance planners and reporting analysts gain most. Asset owners in sectors such as utilities and manufacturing also benefit when deciding whether to repair or replace equipment.

How does Maintenance Performance and Failure Data Analytics differ from a predictive maintenance modelling course?

This core course works with records a site already holds. A machine learning course starts where this one ends, building forecasting models on clean history.

What do you bring back from Maintenance Performance and Failure Data Analytics?

You bring back a maintenance performance and failure analysis pack for a case plant, a metric dictionary and a coding guide. Each can be reused on your own site's records.

Maintenance Performance and Failure Data Analytics: The Way Forward

The maintenance performance and failure analysis pack first informs which three assets receive engineering attention next month. Planners, reliability engineers and asset owners all draw on it. After its first use, revisit the failure code list: the quality of every later chart depends on how consistently crews close their work orders.