JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Data-Driven Maintenance Scheduling Training Course

6 – 10 June 2027
Muscat

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Data-Driven Maintenance Scheduling Training Course

Ref: 3288_125354 **Date:** 6 – 10 June 2027 **Location:** Muscat **Fees:** 6500 GBP

Data-Driven Maintenance Scheduling is a 1-week training course for maintenance planners, reliability engineers and asset managers who must turn equipment records and connected sensor data into a data-driven maintenance schedule. Fixed calendar intervals waste labour on healthy machines while missing early signs of wear on stressed ones. Participants at Jupiter Prime Training practise data-driven maintenance scheduling that links condition evidence to interval setting, crew loading and work order priority.

Why Data-Driven Maintenance Scheduling Matters Now

Three pressures shape data-driven maintenance scheduling today. Connected sensors on pumps, motors, conveyors and building plant now stream vibration, temperature and run-hour readings that older planning habits ignore. Production and facilities leaders expect planned downtime to fit operating windows rather than interrupt them. Skilled technicians are scarce, so every crew hour must go where failure risk is highest. A site scheduling from evidence cuts unplanned stoppages; one scheduling from habit over-maintains some assets and runs others to breakdown. The course rests on general reliability practice: failure modes, condition indicators and risk-based priority.

Who Gains Most from Data-Driven Maintenance Scheduling

- Planners responsible for building weekly and monthly maintenance schedules and crew rosters
- Reliability engineers who set inspection and service intervals for critical equipment
- Asset owners accountable for availability, lifecycle cost and shutdown windows
- Condition monitoring specialists who interpret sensor readings and raise alerts
- Maintenance supervisors who release, sequence and close work orders on the shop floor

A maintenance and reliability department gains most when planners and engineers attend together, agreeing one set of interval rules and priority scores.

Data-Driven Maintenance Scheduling Capabilities

Participants replace calendar habits with intervals and priorities that equipment evidence can defend.

- Specify which sensor readings and failure records each critical asset needs — instrumentation and data collection budgets
- Build a condition data pipeline from capture to cleaned, time-aligned equipment history — trustworthy alerts for engineers
- Calculate maintenance intervals from failure history and degradation trends — service frequency decisions for asset owners
- Test schedule options against crew capacity, parts lead time and operating windows — production and facilities leaders
- Apply criticality and risk scoring to rank the work order backlog — supervisors releasing daily jobs
- Communicate schedule changes with availability and cost trade-offs stated plainly — budget holders and operations heads

Key Data-Driven Maintenance Scheduling Terms

- Condition indicator — a measured value, such as vibration amplitude or bearing temperature, that tracks an asset's health over time.
- Mean time between failures — the average operating time between consecutive failures of a repairable asset.
- Potential-to-functional failure interval — the time between first detectable degradation and actual loss of function.
- Asset criticality — a ranking of how severely an asset's failure affects safety, output, cost and service.
- Work order backlog — the approved maintenance jobs waiting for labour, parts or an access window.
- Schedule compliance — the share of planned jobs completed within the period they were scheduled for.

Data-Driven Maintenance Scheduling Day by Day

Day 1: Equipment Evidence and Scheduling Context

- Calendar, Usage and Condition-Based Intervals — Choosing a Scheduling Basis
- Asset Register and Criticality Ranking — Where Scheduling Effort Pays Back
- Failure Modes and Their Warning Signs — Which Readings Matter
- Maintenance History Records and Failure Codes — Usable Evidence Quality
- Downtime Cost and Availability Targets — Setting Scheduling Objectives

Day 2: Sensor Data Capture and Condition Pipelines

- Vibration, Thermal, Pressure and Run-Hour Sensors — Matching Measurement to Failure
- Sampling Rates and Edge Filtering — Signal Detail Versus Storage Load
- Time Alignment and Missing Readings — Joining Sensor Streams With Work History
- Alarm Thresholds and Trend Alerts — Reducing False Calls to Technicians
- Condition Data Store and Asset Tagging — One History per Machine

Day 3: Setting Intervals from Equipment Data

- Failure Rate Curves and Probability Plots — Wear-Out Versus Random Failure
- Degradation Trending and Remaining Useful Life — When Intervention Becomes Due
- Inspection Interval From Warning Time — Catching Faults Before Breakdown
- Usage-Normalised Intervals for Variable Duty — Fair Comparison Across Assets
- Interval Change Records and Approval — Defending Each Revised Frequency

Day 4: Schedule Optimisation and Work Order Priority

- Risk Priority Scoring of the Backlog — Ordering Jobs by Consequence
- Crew Capacity Levelling and Skills Matching — Realistic Weekly Loading
- Opportunity Windows and Job Grouping — Fewer Separate Shutdowns
- Spare Parts Lead Time and Kitting — Jobs Ready Before Release
- Schedule Compliance and Backlog Ageing Dashboards — Tracking Plan Reliability

Day 5: Practising the Data-Driven Maintenance Schedule

- Criticality and Failure Mode Review of Participant Assets — Applying Day 1
- Sensor Coverage Gaps and Pipeline Fixes — Applying Day 2 Choices
- Revised Interval Set From Real Histories — Applying Day 3 Methods
- Prioritised Four-Week Job Sequence — Applying Day 4 Scoring
- Data-Driven Maintenance Schedule Completed and Peer Challenged — Ready for Sign-Off

Applying Data-Driven Maintenance Scheduling After the Course

- Recalculate service intervals for the ten most critical assets using their failure history and condition trends, and submit the changes for approval.
- Introduce risk priority scoring on the open work order backlog and report schedule compliance and backlog ageing at the weekly planning meeting.

Data-Driven Maintenance Scheduling Questions FAQ

What is data-driven maintenance scheduling and why does it matter now?

Data-driven maintenance scheduling sets when and in what order jobs happen using equipment history and sensor readings rather than fixed calendars. It matters now because connected sensors make condition evidence affordable while skilled crews and downtime windows grow scarcer.

Which roles gain most from data-driven maintenance scheduling training?

Maintenance planners, reliability engineers and asset owners gain most. You benefit if you set service intervals, load crews or decide which work orders a site releases first.

How does data-driven maintenance scheduling differ from a maintenance performance analytics course?

Data-driven maintenance scheduling turns evidence into intervals, job sequences and crew loading. A performance analytics course measures past maintenance results instead.

What do you bring back from data-driven maintenance scheduling training?

You bring back a completed schedule for your own assets. It holds evidenced intervals, a ranked backlog and a four-week job sequence.

Data-Driven Maintenance Scheduling: The Way Forward

The data-driven maintenance schedule first informs which service frequencies change at the next planning cycle. Planners load crews from it; engineers justify each revised interval with it. After its first month, revisit alarm thresholds and priority weights against schedule compliance, because interval rules stay credible only while fresh condition data keeps testing them.