JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Project Schedule and Cost Risk Quantification Training Course

24 October – 4 November 2027
Amman

Project Schedule and Cost Risk Quantification Training Course

Ref: 324_10987 **Date:** 24 October – 4 November 2027 **Location:** Amman **Fees:** 5500 GBP

Project Schedule and Cost Risk Quantification is a 2-week training course for project controls managers, planners, cost engineers and project directors who must defend completion dates and budgets with evidence, and it ends with a Quantified Contingency Report. Owners, lenders and boards now expect confidence levels behind every forecast, not single-point estimates that slip. Jupiter Prime Training delivers this course on project schedule and cost risk quantification for experienced practitioners.

Why Project Schedule and Cost Risk Quantification Matters Now

Three forces push quantitative risk work onto the project director's desk. Capital projects grow larger and more interfaced, so a delay on one package ripples through others. Investors and funding committees ask what probability lies behind a sanctioned budget before they release money. Contractors and owners also argue harder over who carries which uncertainty, so allocation must be explicit in the contract. Organisations that model uncertainty well set honest contingency and protect credibility; those that do not face late overruns and disputes. The course rests on the ISO 31000 risk management guidelines and on accepted practice in schedule and cost risk analysis.

Who Gains Most from Project Schedule and Cost Risk Quantification

- Project controls leads who own baseline schedules, estimates and forecast reporting
- Planning specialists responsible for logic, critical path integrity and schedule health
- Cost engineering leads who build estimates, basis documents and contingency proposals
- Project directors who present confidence levels to sanction and funding committees
- Contract and commercial leads who draft risk allocation and change control clauses

The greatest gain comes when a planner, a cost engineer and a commercial lead from the same project attend together and build one integrated cost and schedule risk model.

Project Schedule and Cost Risk Quantification Capabilities

Participants move from deterministic dates and lump-sum allowances to probabilistic forecasts that show what a target date or budget actually costs in confidence.

- Assess schedule quality and logic before simulation — planners and project controls leads
- Calibrate three-point ranges and risk events with structured elicitation — estimators and risk owners
- Build integrated Monte Carlo cost and schedule models — sanction and funding decisions
- Calculate contingency and schedule margin at chosen confidence levels — project directors and boards

- Design contractual risk allocation and change control routes — owners and contractors
- Communicate probabilistic results at governance gates — investment and stage-gate committees

Key Project Schedule and Cost Risk Quantification Terms

- Three-point estimate — a range for a duration or cost given as optimistic, most likely and pessimistic values.
- Monte Carlo simulation — repeated random sampling of ranges and risks to produce a probability distribution of outcomes.
- P50 and P80 — the values a project has a 50 or 80 per cent chance of not exceeding.
- Contingency — an amount of cost or time held to cover identified and unidentified uncertainty within the project scope.
- Merge bias — the delay that appears when several parallel paths converge, each able to hold up the joining activity.
- Risk driver — a source of uncertainty modelled as a factor that moves several activities or cost lines together.

Project Schedule and Cost Risk Quantification Day by Day

Day 1: Uncertainty on Capital Projects

- Overrun Case Studies From Energy And Infrastructure — Root Causes Of Slippage
- ISO 31000 Process — Framing Quantitative Work Within Project Risk Practice
- Deterministic Versus Probabilistic Forecasts — Choosing The Right Question
- Optimism Bias And Strategic Misrepresentation — Challenging Early Estimates
- Quantification Maturity Diagnostic — Locating Current Gaps In Controls

Day 2: Risk Registers Fit for Modelling

- Cause, Event And Effect Wording — Making Register Entries Measurable
- Threat And Opportunity Capture — Keeping Upside Visible In Forecasts
- Probability And Impact Ranges — Replacing Heat Map Scores With Values
- Risk Ownership And Response Costing — Deciding Which Actions Pay Back
- Register To Model Mapping — Linking Events To Activities And Cost Lines

Day 3: Schedule Health Before Simulation

- Logic And Open-End Checks — Removing Defects That Distort Results
- Constraints, Lags And Calendars — Judging Their Effect On Float
- Summary Schedule Building — Balancing Detail Against Model Speed
- Critical And Near-Critical Paths — Spotting Where Merge Bias Arises
- Schedule Basis Document — Recording Assumptions For Later Challenge

Day 4: Estimating Uncertainty Ranges

- Three-Point Estimates — Setting Optimistic, Likely And Pessimistic Values
- Distribution Choice Triangular, PERT And Uniform — Shaping Tails Honestly
- Structured Expert Elicitation — Reducing Anchoring In Range Interviews
- Correlation Between Activities — Avoiding False Narrowing Of Results
- Risk Drivers Method — Moving Groups Of Activities With Shared Causes

Day 5: Monte Carlo Schedule Risk Analysis

- Simulation Set-Up And Iteration Count — Securing Stable Output Curves
- Cumulative Probability Curves — Reading P50, P80 And Target Dates
- Tornado And Sensitivity Charts — Ranking The Activities Driving Delay
- Criticality Index — Finding Paths That Become Critical Under Uncertainty
- Probabilistic Branching — Modelling Rework And Failed Tests

Day 6: Cost Risk and Integrated Models

- Cost Estimate Classes And Basis — Matching Ranges To Definition Level
- Line-Item Cost Ranging — Linking Quantities, Rates And Escalation
- Time-Dependent Costs — Converting Delay Into Overhead And Standby Cost
- Integrated Cost And Schedule Simulation — Joint Confidence Of Date And Budget
- Parametric Contingency Models — Cross-Checking Results Against History

Day 7: Setting Contingency and Margin

- Confidence Level Selection — Matching P-Values To Owner Risk Appetite
- Contingency Versus Management Reserve — Separating Known From Unknown
- Schedule Margin Placement — Protecting Key Milestones Without Padding
- Contingency Drawdown Rules — Approving Releases Against Realised Risks
- Burn-Down Tracking — Comparing Remaining Contingency With Remaining Risk

Day 8: Contracts, Allocation and Change Control

- Contract Model Comparison — Lump Sum, Reimbursable And Target Cost
- Risk Allocation Matrix — Assigning Each Uncertainty To Its Best Holder
- Change Control Procedure — Valuing Variations With Model Outputs
- Delay Analysis Methods — Supporting Extension Of Time Assessments
- Claims Prevention Records — Keeping Evidence Of Risk Notices

Day 9: Governance Gates and Reporting

- Stage-Gate Review Criteria — Requiring Confidence Levels At Sanction
- Independent Model Review — Challenging Ranges, Logic And Correlation
- Risk-Adjusted Forecast Reporting — Showing Trends Across Periods
- Board Visualisation Of Probabilistic Results — Avoiding Misreadings
- Portfolio Contingency Pooling — Balancing Reserves Across Projects

Day 10: Practising the Quantified Contingency Report

- Applying Schedule Health Checks — Preparing A Case Project Model
- Applying Ranges And Risk Drivers — Building The Integrated Simulation
- Applying Confidence Selection — Setting Contingency And Schedule Margin
- Sanction Committee Rehearsal — Defending Results Before Mock Reviewers
- Quantified Contingency Report — Confidence Levels, Drivers And Drawdown Rules

Applying Project Schedule and Cost Risk Quantification After the Course

- Run a schedule health check and a risk driver interview round on one live project, then present the first cumulative probability curve to the project director.
- Compare the current contingency on a sanctioned project with an integrated simulation result and propose drawdown rules to the cost and change control board.

Project Schedule and Cost Risk Quantification Questions FAQ

What is project schedule and cost risk quantification and why does it matter now?

Project schedule and cost risk quantification models uncertainty in durations, costs and risk events to show the probability of meeting a date or budget. It matters now because funders and boards expect evidence of confidence before releasing capital.

Which roles gain most from project schedule and cost risk quantification?

Project controls managers, planners, cost engineers and project directors gain most, along with commercial leads who allocate risk in contracts. They own the forecasts and contingency that sanction committees rely on.

How does project schedule and cost risk quantification differ from a general project risk management course?

Project schedule and cost risk quantification centres on probabilistic modelling, contingency setting and confidence levels. A general project risk management course covers identification, qualitative assessment and response planning, usually without simulation or integrated cost and schedule models.

What do you bring back from project schedule and cost risk quantification training?

You bring back a report setting contingency and schedule margin at chosen confidence levels for a case project, with the risk drivers, model checks and drawdown rules you can reuse on your own projects.

Project Schedule and Cost Risk Quantification: The Way Forward

The Quantified Contingency Report first informs the confidence level a sanction committee accepts for a date and budget. Project directors use it to defend funding requests, while cost engineers and planners use it to release contingency against realised risks. After its first use, revisit the correlation assumptions, as early results often show ranges that were narrowed too much.