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COURSE BROCHURE

# Advanced Project Scheduling and Cost Planning Training Course

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# Advanced Project Scheduling and Cost Planning Training Course

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Project Scheduling and Cost Planning at advanced level is the subject of this 2-week training course for planners, schedulers and project controls engineers, who build a resource and cost-loaded integrated master schedule. Owners and contractors increasingly judge progress, payments and claims on the quality of the schedule, so weak logic or unloaded activities quickly become commercial problems. Jupiter Prime Training runs this course for specialists who want schedules that stand up to scrutiny.

## Why Project Scheduling and Cost Planning Matters Now

Two forces drive scheduling standards upward: owners who tie interim payments and performance reviews to an approved schedule, and contractors who rely on that schedule to defend time and cost entitlement. When the critical path is sound, resources are levelled and costs are loaded at activity level, the schedule becomes the single source of truth for forecasting; when it is not, planners spend months reconciling conflicting versions. The course builds on the PMBOK Guide 7th edition, notably its planning and measurement performance domains, and on ISO 21502:2020 guidance on project management for schedule and cost baselines.

## Who Gains Most from Project Scheduling and Cost Planning

- Planners who build and maintain logic networks for engineering and construction scopes
- Schedulers who level labour, equipment and specialist crews across parallel work fronts
- Project controls engineers who integrate cost, progress and schedule reporting
- Package leads who review contractor schedules before acceptance
- Specialists who prepare monthly schedule updates and baseline revisions

A project controls function gains most when its planners, cost engineers and contractor-interface leads attend together and agree common coding, logic rules and update cycles.

## Project Scheduling and Cost Planning Capabilities

Participants move from logic and durations through resources and costs to a baseline that withstands audit and monthly updating.

- Build critical path networks with sound logic, lags and constraints — the owner's planner accepting the schedule
- Calculate total and free float and interpret near-critical paths — the project manager setting priorities
- Apply resource levelling and smoothing to labour and equipment histograms — the construction or operations lead
- Specify cost loading at activity level and derive time-phased cost curves — the cost engineer and finance team
- Test schedule quality with structured health-check metrics — the controls manager approving the baseline
- Design an update and baseline revision routine with change logs — the contract administrator tracking variations

## Key Project Scheduling and Cost Planning Terms

- Critical path — the longest chain of dependent activities that determines the earliest possible finish date of the project
- Total float — the amount of time an activity can slip without delaying the project completion date
- Resource levelling — adjusting activity dates so that resource demand stays within available capacity, which may extend the finish
- Cost-loaded schedule — a schedule in which each activity carries budgeted cost, producing time-phased cost and cash curves
- Integrated master schedule — the top-level schedule that links all work packages, milestones and interfaces in one logic network
- Schedule baseline — the approved version of the schedule against which progress, slippage and forecasts are measured

## Project Scheduling and Cost Planning Day by Day

## Day 1: The Schedule as a Contract Tool

- PMBOK Guide Planning and Measurement Domains — Framing Scheduling Decisions
- ISO 21502 Schedule Baseline Guidance — Setting Approval and Control Points
- Owner and Contractor Schedule Requirements — Reading Specification Clauses Correctly
- Planning Levels One to Five — Matching Detail to Audience
- Schedule Management Plan — Defining Coding, Calendars and Update Rules

## Day 2: Work Breakdown and Activity Definition

- Work Breakdown Structure for Scheduling — Deriving Activities From Deliverables
- Activity Coding Structures — Enabling Filters by Area, Discipline and Phase
- Duration Estimating From Production Rates — Linking Quantities to Time
- Calendars, Shifts and Non-Working Periods — Avoiding Hidden Duration Errors
- Milestone Hierarchy — Separating Contractual, Key and Interface Events

## Day 3: Critical Path Networks

- Precedence Diagramming Method — Building Logic With Four Relationship Types
- Leads, Lags and Their Misuse — Keeping Logic Transparent
- Forward and Backward Pass Calculation — Deriving Early and Late Dates
- Total and Free Float Interpretation — Identifying Near-Critical Paths
- Constraints and Open Ends — Removing Logic That Distorts Float

## Day 4: Resource Loading and Levelling

- Resource Dictionary and Crews — Defining Labour, Plant and Specialist Units
- Resource Histograms — Exposing Peaks Against Available Capacity
- Levelling Versus Smoothing — Choosing Between Time and Capacity Trade-Offs
- Multi-Project Resource Pools — Sharing Scarce Specialists Across Schedules
- Productivity and Learning Curves — Adjusting Durations for Ramp-Up

## Day 5: Cost Loading and Cost Planning

- Activity-Level Cost Loading — Assigning Labour, Material and Subcontract Costs
- Cost Account Mapping — Linking Schedule Activities to Control Accounts
- Time-Phased Cost Curves — Producing Planned Value Profiles
- Cash Flow Curve From Payment Terms — Shifting Cost to Cash Timing
- Unit Rate and Lump Sum Distribution — Spreading Costs Realistically

## Day 6: Integrating the Master Schedule

- Integrated Master Schedule Architecture — Linking Engineering, Procurement and Construction
- Procurement Lead-Time Logic — Tying Fabrication and Delivery to Installation
- Interface Milestones Between Contractors — Managing Third-Party Dependencies
- Summary and Detailed Schedule Roll-Up — Keeping Levels Consistent
- Commissioning and Handover Sequencing — Planning System Completion Logic

## Day 7: Schedule Quality Health Checks

- Logic Density and Missing Links — Testing Network Completeness
- High Float and Negative Float Diagnostics — Locating Structural Faults
- Hard Constraints and Long Durations Audit — Challenging Unrealistic Activities
- Resource and Cost Loading Completeness — Confirming Every Activity Carries Data
- Critical Path Test — Proving Delay Propagates to Completion

## Day 8: Baseline Approval and Control

- Baseline Submission Package — Narrative, Logic Report and Basis of Schedule
- Owner Review Comments Cycle — Resolving Objections Before Acceptance
- Baseline Freeze and Version Control — Protecting the Approved Schedule
- Planned Value Baseline — Aligning Schedule and Cost for Measurement
- Change Log for Schedule Revisions — Recording Every Logic and Date Change

## Day 9: Updating and Forecasting

- Progress Measurement Rules — Physical Percent Complete and Weighted Steps
- Monthly Update Cycle — Statusing Actual Dates and Remaining Durations
- Schedule Variance and Earned Schedule — Measuring Time Performance
- Look-Ahead Schedules — Translating the Master Schedule for Site Teams
- Recovery Schedule Options — Acceleration, Resequencing and Added Resources

## Day 10: Practising the Integrated Master Schedule

- Network Rebuild Exercise — Applying Days 2 and 3 Logic Rules to a Case
- Levelling and Loading Run — Applying Days 4 and 5 to Shared Resources
- Health Check Audit — Applying Day 7 Metrics to a Peer Schedule
- Baseline Defence Session — Applying Day 8 Submission Package Under Review
- Resource and Cost-Loaded Integrated Master Schedule — Finalising the Baseline Submission

## Applying Project Scheduling and Cost Planning After the Course

- Run a schedule health check on one live schedule using logic density, float and constraint metrics, then issue a correction list to the responsible planner
- Load costs at activity level for one work package and compare the resulting planned value curve with the finance team's cash forecast

## Project Scheduling and Cost Planning Questions FAQ

### What is Project Scheduling and Cost Planning and why does it matter now?

Project Scheduling and Cost Planning is the discipline of building logic-driven schedules that carry resources and costs at activity level. It matters now because owners tie payments, performance and claims to the approved schedule, so weak logic quickly becomes a commercial risk.

### Which roles gain most from Project Scheduling and Cost Planning training?

Planners, schedulers and project controls engineers gain most. They build and update schedules daily and need sound critical path logic, levelled resources, cost loading and health checks that let their baselines survive owner review.

### How does Project Scheduling and Cost Planning differ from a schedule risk analysis course?

It differs by building the deterministic schedule itself rather than simulating uncertainty around it. A schedule risk course models probabilistic outcomes, while this one covers logic, float, levelling, cost loading, baselining and monthly updating.

## What do you bring back from Project Scheduling and Cost Planning training?

You bring back a resource and cost-loaded integrated master schedule for a real project. It includes a tested logic network, levelled histograms, planned value curves and a baseline submission package ready for owner review.

## Project Scheduling and Cost Planning: The Way Forward

The resource and cost-loaded integrated master schedule first informs the owner's decision to accept the baseline. Planners maintain it, cost engineers draw planned value from it, and site teams receive look-ahead extracts. After the first monthly update, revisit the levelling assumptions and cost distribution against actual productivity to see where the logic and loading need refining.