€TRAINING

Planning Projects for Performance Excellence

16 - 27 September 2024
Barcelona (Spain)

Planning Projects for Performance Excellence

REF: P264 DATE: 16 - 27 September 2024 Venue: Barcelona (Spain) - Fee: 9460 Euro

Introduction:

This training program is designed to equip participants with advanced project management techniques that ensure efficient project scope planning, scheduling, resource allocation, and cost estimating. Participants will gain in-depth knowledge of tools and strategies essential for managing projects effectively, with a focus on risk management, acceleration techniques, and cost estimation.

Program Objectives:

At the end of this program the participants will be able to:

- Acquire proficiency in project estimating techniques, covering conceptual to detailed estimates.
- Differentiate between various estimate types for precise cost estimation during project progression.
- Comprehend diverse contract types and their implications on risk distribution among parties.
- Master resource planning and control techniques to optimize project execution.
- Evaluate time-cost trade-offs and implement strategies to sustain project momentum while minimizing risks.

Targeted Audience:

- Project Managers and Projects Planners.
- Project Cost Estimators.
- Cost Controllers.
- Contract Professionals.
- Project Procurement Staff.

Program Outlines:

Unit 1:

Project Scope Planning and Definition Fundamentals:

- Scope Planning.
- Work Breakdown Structures WBS and Work Packages.

- Statement of Work SOW - Technical Baseline.
- Scope Execution Plan.
- Triple Constraints - Time, Cost, Scope.
- Project Quality Issues, Risk Analysis and Deliverables.
- Resource Requirements.

Unit 2:

Project Schedule Planning and Critical Path Method:

- Utilize Precedence Network Diagramming and Job Logic Relationship Chart techniques to map project workflows and dependencies effectively.
- Conduct Critical Path Analysis and Project Float Analysis to identify key tasks and optimize project timelines.
- Implement Lead and Lag Scheduling methods to fine-tune task sequences and minimize delays.
- Employ Activity Duration Estimation and Milestone Charts for accurate project scheduling and progress tracking.
- Utilize Gantt Chart - Schedule Baseline and Project Estimating Processes for comprehensive project planning and resource allocation.

Unit 3:

Resource Allocation and Resource Levelling:

- Efficiently manage resources through planning and scheduling techniques, especially when resources are limited.
- Implement resource allocation algorithms to prioritize resources effectively in project planning.
- Address resource contention issues using techniques like the Brooks Method and resource leveling.
- Manage workforce fluctuations by strategically increasing manpower when necessary.
- Mitigate interruptions to schedules and meet deadlines by scheduling overtime when appropriate.

Unit 4:

Accelerating the Project Schedule:

- Identify Circumstances Requiring Project Acceleration and understand the Time-Cost-Scope Trade-off.

- Explore methods for Project Time Reduction, considering Direct and Indirect Project Costs.
- Evaluate Options for Accelerating the Schedule, including strategies like Crashing the Schedule.
- Develop a Pre-Accelerated Schedule and a Crash Cost Table to plan for acceleration.
- Implement Acceleration in Practice, finding the Optimal Acceleration Point and utilizing tools like the Gantt Chart for an Accelerated Schedule.
- Manage Network Activity Risk Profiles and consider Additional Considerations such as Multiple Critical Paths and Project Cost Reduction strategies.

Unit 5:

Project Contingency Planning:

- Master Program Evaluation and Review Technique PERT alongside Path Convergence Analysis techniques.
- Address the Path Convergence Problem effectively and analyze various Network Risk Profile Types.
- Understand the Normal Distribution and its relevance to PERT, Probability, and Standard Deviation Formulae.
- Calculate Standard Deviation for critical path activities to gauge project variability.
- Utilize Z-Values to determine the Probability of Project Completion at a Required Date.
- Apply Network Activity Risk Profiles to estimate Project Duration accurately in practical scenarios.

Unit 6:

Line of Balance Scheduling - The Planning of Recurring Activities:

- Develop a Line of Balance Schedule, ensuring linear sequences of activities are prepared effectively.
- Utilize Velocity Diagrams and Linear Scheduling techniques for streamlined project planning.
- Calculate Production Rate and determine Target Units per Week to maintain schedule consistency.
- Apply Line of Balance Formulae to balance the schedule, including Crew Size determination and Time to Complete Activities.
- Incorporate Buffers into the schedule to account for variability and ensure project timelines are met.
- Evaluate progress by comparing Planned versus Actual Progress, accounting for Expected and Actual Work Conditions.
- Measure progress against the Balanced Schedule and make adjustments accordingly to ensure project success.

Unit 7:

Project Execution Management, Control and Reporting:

- Implement Progress Tracking and Monitoring techniques to oversee project advancement.
- Manage Project Costs effectively through Earned Value Control Processes.
- Analyze Schedule and Cost Variances to assess project performance.
- Utilize Progress Control Charts for Trend Analysis and Forecasting of Schedule and Cost Variances.
- Implement Earned Value Analysis and Reporting for comprehensive project evaluation and reporting.

Unit 8:

Project Recovery Plan Development:

- Conduct Project Variance Analysis and Quantification to identify discrepancies.
- Utilize Schedule Performance Index SPI and Cost Performance Index CPI for performance evaluation.
- Establish Schedule and Cost Control Limits to manage project constraints effectively.
- Assess Project Recovery Data to determine necessary actions for improvement.
- Develop Schedule and Cost Recovery Plans based on Recovery Analysis, incorporating Recovery Baselines and Controls for project stabilization.

Unit 9:

Cost Estimating Basics:

- Understand the Estimating Life Cycle, including the Phases of the Design Process.
- Progress through Programming, Schematic Design, Design Development, and Construction Documents phases.
- Evaluate Estimating Accuracy by phase, from Conceptual Cost Estimates to Definitive Estimates.
- Utilize various Estimating Methods, such as Rough Order of Magnitude, Assemblies, and Semi-detailed Estimates.
- Familiarize with Cost Indices and Basic Procedures for estimating.
- Explore different Contract Types including Lump-sum, Unit-price, Cost-plus, and Time-and-Materials contracts.
- Implement Procurement Methods and Pre-construction Services, including Risk Analysis and

Contingencies, in project planning.

Unit 10:

Broad Scope Cost Estimating Techniques:

- Apply Adjustments to Project Costs for Broad Scope Estimates, considering factors like location and size.
- Perform PERT Project Cost Analysis and derive PERT Unit Cost Estimates for accurate budgeting.
- Utilize Formulae for Cost Estimating, including adjustments based on previous projects and economic factors.
- Understand the Normal Distribution Curve and Z-Value Table to assess the Probability of Project Completion within Budget.
- Estimate Project Unit Cost by using Standard Deviation and adjust estimates for Time and Location.
- Review concepts such as Future Value of Money, Present Value of Money, and Equivalent Annual Interest Rate for financial analysis.
- Incorporate Learning Curve Effects into estimating durations and costs, including adjustments for Unit Costs based on learning curves.