

# € TRAINING

Project Planning with Scheduling and Cost  
Estimating Skills





# Project Planning with Scheduling and Cost Estimating Skills

## Introduction:

This Project Planning with Scheduling and Cost Estimating Skills training program will significantly enhance the skills and knowledge of delegates and improve their ability to properly plan and schedule their projects, as well as perform estimates at both the conceptual and detailed levels, and to compare feasible alternatives quickly and efficiently.

## Program Objectives:

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

- Integrate project management elements.
- Advance project network diagrams for risk identification.
- Maintain continuous project performance and delivery control.
- Estimate, allocate, and control project costs and resources.
- Accelerate schedules and mitigate risks.
- Develop recovery plans and progress reports.
- Understand comprehensive budgeting and contracting structures.

## Targeted Audience:

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

## Program Outlines:

Unit 1:

## Project Scope Planning and Definition Fundamentals:

- Scope Planning.
- Work Breakdown Structures WBS.
- Statement of Work SOW - Technical Baseline.
- Scope Execution Plan.
- Triple Constraints: Time, Cost, Scope.
- Project Deliverables.

## Unit 2:

### Project Schedule Planning and Critical Path Method:

- Precedence Network Diagramming.
- Critical Path Analysis.
- Lead and Lag Scheduling.
- Activity Duration Estimation.
- Milestone Charts.
- Gantt Chart - Schedule Baseline.

## Unit 3:

### Resource Allocation and Resource Levelling:

- Management of Resources.
- Solving Resource Contention.
- Resource Levelling when Project Duration is Fixed.
- The Brooks Method of Resource Allocation.
- Increasing the Workforce.
- Scheduling Overtime.

## Unit 4:

### Accelerating the Project Schedule:

- Circumstances Requiring Project Acceleration.
- Time-Cost-Scope Trade-off.
- Direct Project Costs.
- Options for Accelerating the Schedule.
- Pre-Accelerated Schedule.
- Gantt Chart for Accelerated Schedule.

## Unit 5:

### Project Contingency Planning:

- Program Evaluation and Review Technique PERT.
- Solving the Path Convergence Problem.
- Network Risk Profile Types.
- Normal Distribution.
- Z-Values: The Probability of Project Completion at a Required Date.
- Application: Estimating Project Duration.

## Unit 6:

### Line of Balance Scheduling - The Planning of Recurring Activities:

- Preparing a Line of Balance Schedule.
- Calculations for a Line of Balance Schedule.
- Velocity Diagrams and Linear Scheduling.
- Balancing the Schedule.
- Inserting Buffers.
- Actual Progress and Work Conditions.

## Unit 7:

### Project Execution Management, Control, and Reporting:

- Progress Tracking and Monitoring.
- Earned Value Analysis.
- Project Cost Management.
- Schedule Variances.
- Materials Management and Cost Control.
- Earned Value Reporting.

## Unit 8:

### Project Recovery Plan Development:

- Project Variance Analysis and Quantification.
- Schedule Performance Index SPI.
- Cost Performance Index CPI.
- Setting Schedule and Cost Control Limits.
- Project Recovery Data Assessment.
- Schedule and Cost Recovery Analysis and plan.
- Project Recovery Baselines and Controls.

## Unit 9:

### Cost Estimating Basics:

- The Estimating Life Cycle.
- Programming Phase.
- Lump-Sum Contracts.
- Rough Order of Magnitude Estimates Broad Scope Estimates.
- Risk Analysis and Contingencies.
- Quantity Take-Off.

## Unit 10:

### Broad Scope Cost Estimating Techniques:

- Adjustments to Project Cost for Broad Scope Estimates.
- Estimating Costs Based on the Learning Curve Effect.
- Adjustments for Time.
- Estimating Project Unit Cost by Using the Standard Deviation.
- PERT Project Cost Analysis.
- Economic Price Adjustment.

#### Budget Estimating Process:

- Estimating by the design phase.
- Programming budget estimates.