



PM323: Advanced Project Controls & Scheduling

Training Description:

Effective project controls and scheduling are critical to the successful delivery of projects within scope, budget, and time constraints. This intensive five-day training program provides participants with advanced knowledge and practical skills in project planning, scheduling, monitoring, forecasting and control techniques used in complex engineering, construction, oil & gas, infrastructure, manufacturing and industrial projects.

The training course focuses on advanced project control methodologies, including Work Breakdown Structures (WBS), Critical Path Method (CPM), resource management, cost control, earned value management (EVM), progress measurement, risk analysis, delay analysis, forecasting and performance reporting. Participants will gain a comprehensive understanding of how project controls integrate with project management frameworks to improve decision-making and project outcomes.

Through practical exercises, real-world case studies and industry best practices, attendees will learn how to establish robust project control systems, identify project variances, manage schedule risks and implement corrective actions that ensure successful project execution.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand advanced project control principles and methodologies
- ✓ Develop comprehensive project schedules using industry best practices
- ✓ Establish effective Work Breakdown Structures (WBS) and project baselines
- ✓ Apply Critical Path Method (CPM) and advanced scheduling techniques
- ✓ Manage project resources and optimize project performance
- ✓ Implement Earned Value Management (EVM) for project monitoring and control
- ✓ Analyze schedule delays and assess project impacts
- ✓ Perform schedule risk analysis and forecasting
- ✓ Design effective project performance measurement systems
- ✓ Generate meaningful project control reports and dashboards
- ✓ Apply corrective and preventive actions to maintain project objectives
- ✓ Enhance project visibility and decision-making through advanced project controls

Expected Outcomes:

- ✓ Develop and manage complex project schedules
- ✓ Establish effective project control systems and procedures
- ✓ Apply CPM, EVM and forecasting techniques confidently
- ✓ Monitor project performance using industry-standard methodologies
- ✓ Identify and mitigate schedule and cost risks proactively
- ✓ Analyze delays and support claims management processes
- ✓ Produce executive-level project performance reports and dashboards
- ✓ Improve project predictability, efficiency, and overall success rates

Training Designed for:

This training course is intended for Project Managers, Project Control Managers, Planning and Scheduling Engineers, Cost Control Engineers, Project Engineers, Construction Managers, Contract Managers, PMO

Professionals, Operations Managers, Engineering Managers, Risk Management Professionals, Procurement and Supply Chain Professionals, Program Managers and Infrastructure and Industrial Project Professionals.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

ADVANCED PROJECT PLANNING & PROJECT CONTROL FRAMEWORK

- ❖ **Module 1: Fundamentals of Advanced Project Controls**
 - Role of project controls in project success
 - Project control lifecycle
 - Integrated project management and control systems
 - Project governance and control structures
 - Project control maturity models
 - Key project control functions
- ❖ **Workshop:**
 - Assessing project control effectiveness
- ❖ **Module 2: Project Scope Definition & Work Breakdown Structure (WBS)**
 - Scope management fundamentals
 - Developing effective WBS structures
 - Deliverable-based planning
 - WBS coding systems
 - Control accounts and work packages
 - Responsibility Assignment Matrix (RAM)
- ❖ **Workshop:**
 - Building a project WBS
- ❖ **Module 3: Developing Project Baselines**
 - Scope baseline
 - Schedule baseline
 - Cost baseline
 - Change management procedures
 - Baseline approval process
- ❖ **Practical Exercise:**
 - Establishing project baselines

DAY TWO:

ADVANCED SCHEDULING TECHNIQUES & CRITICAL PATH ANALYSIS

- ❖ **Module 1: Project Scheduling Best Practices**
 - Scheduling methodologies

- Logic-driven scheduling
- Network diagram development
- Activity sequencing
- Relationship types and constraints
- ❖ **Workshop:**
 - Developing project networks
- ❖ **Module 2: Critical Path Method (CPM)**
 - Critical path identification
 - Float calculations
 - Near-critical path analysis
 - Schedule compression techniques
 - Fast tracking and crashing
 - Schedule optimization
- ❖ **Practical Exercise:**
 - Critical path calculations and optimization
- ❖ **Module 3: Resource Planning & Schedule Integration**
 - Resource allocation techniques
 - Resource loading and leveling
 - Resource-constrained scheduling
 - Productivity analysis
 - Resource forecasting
- ❖ **Workshop:**
 - Resource optimization strategies

DAY THREE:

COST CONTROL & EARNED VALUE MANAGEMENT (EVM)

- ❖ **Module 1: Advanced Cost Control Systems**
 - Cost estimating fundamentals
 - Budget development
 - Cost coding structures
 - Cost tracking systems
 - Forecasting methodologies
- ❖ **Workshop:**
 - Establishing cost control frameworks
- ❖ **Module 2: Earned Value Management (EVM)**
 - EVM principles
 - Planned Value (PV)
 - Earned Value (EV)
 - Actual Cost (AC)
 - Cost Performance Index (CPI)
 - Schedule Performance Index (SPI)
- ❖ **Practical Exercise:**
 - EVM calculations and interpretation
- ❖ **Module 3: Forecasting Project Performance**
 - Estimate at Completion (EAC)

- Estimate to Complete (ETC)
- Variance at Completion (VAC)
- Trend analysis
- Performance forecasting
- ❖ **Workshop:**
 - Developing project forecasts

DAY FOUR:

PROGRESS MEASUREMENT, RISK ANALYSIS & DELAY MANAGEMENT

- ❖ **Module 1: Project Progress Measurement**
 - Physical progress measurement techniques
 - Weighted progress systems
 - Quantity-based measurement
 - Milestone progress tracking
 - Progress validation methods
- ❖ **Practical Exercise:**
 - Measuring project progress
- ❖ **Module 2: Schedule Risk Analysis**
 - Schedule uncertainty assessment
 - Risk identification techniques
 - Risk quantification
 - Monte Carlo simulation concepts
 - Contingency planning
- ❖ **Workshop:**
 - Schedule risk evaluation
- ❖ **Module 3: Delay Analysis & Claims Management**
 - Types of project delays
 - Delay analysis methodologies
 - Time Impact Analysis (TIA)
 - Window analysis
 - Concurrent delays
 - Extension of Time (EOT) claims
- ❖ **Case Study:**
 - Analysis of project delay scenarios

DAY FIVE:

PROJECT PERFORMANCE REPORTING, FORECASTING & CONTROL OPTIMIZATION

- ❖ **Module 1: Project Performance Monitoring**
 - Key Performance Indicators (KPIs)
 - Project control metrics
 - Performance measurement systems
 - Leading and lagging indicators
 - Executive reporting requirements
- ❖ **Workshop:**
 - Designing project KPIs
- ❖ **Module 2: Advanced Reporting & Dashboard Development**

- Management reporting techniques
- Project control dashboards
- Visual performance indicators
- Data analytics for project controls
- Executive decision support systems
- ❖ **Practical Exercise:**
 - Developing project control dashboards
- ❖ **Module 3: Integrated Project Controls & Continuous Improvement**
 - Integrated cost and schedule control
 - Lessons learned management
 - Project recovery planning
 - Corrective and preventive actions
 - Project control best practices
 - Future trends in project controls and digital project management
- ❖ **Final Workshop:**
 - Building an integrated project control strategy
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

USD\$ TBA - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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