Advanced Project Control Engineer: Mastering Complex Projects

17 – 21 January 2027
Riyadh (KSA)



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Why This Course

In today's complex engineering landscape, large-scale projects demand far more than basic cost tracking and schedule updates. Project control engineers are expected to manage uncertainty, interpret vast amounts of data, control multi-million-dollar budgets, and provide clear direction in high-pressure environments.

This intensive 1-week course is tailored for experienced project control professionals who want to elevate their expertise and take on greater leadership responsibility. It blends advanced technical methodologies with practical application, enabling participants to strengthen their capabilities in cost management, schedule optimization, risk analysis, data-driven decision-making, and stakeholder engagement.

What You'll Learn and Practice

By attending this program, you will:

- Master advanced cost estimation and budgeting techniques for complex engineering projects
- Develop deeper expertise in sophisticated schedule management and optimization methods
- Strengthen quantitative risk analysis and mitigation strategies for high-impact projects
- Apply data analytics and predictive modeling to improve forecasting and performance control
- Enhance stakeholder communication and leadership skills in multi-disciplinary project environments

The Program Flow

Day 1: Advanced Cost Management

- Complex cost estimation methodologies
- Advanced budgeting and financial control techniques
- Cost risk analysis and contingency planning
- Applying value engineering within project control

Day 2: Advanced Schedule Management

- Critical chain project management principles
- Resource-constrained scheduling strategies
- Schedule compression and acceleration techniques
- Monte Carlo simulation for schedule risk analysis



Day 3: Risk Management and Mitigation

- Quantitative risk analysis tools and techniques
- Establishing risk-adjusted cost and schedule baselines
- Developing comprehensive risk response strategies
- Integrating risk management into project control frameworks

Day 4: Data Analytics and Predictive Modeling

- Advanced earned value management applications
- Predictive analytics for project performance improvement
- Leveraging big data in project control environments
- Introduction to machine learning for project forecasting

Day 5: Leadership and Stakeholder Management

- Communication strategies for complex engineering projects
- Managing stakeholder expectations in high-pressure settings
- Leading cross-functional project control teams
- Ethical considerations in project control decision-making

Individual Impact

Participants will leave the program with:

- Greater confidence in estimating and controlling costs for large, high-value projects
- Stronger ability to optimize schedules and manage resource constraints
- Advanced skills in identifying, analyzing, and mitigating project risks
- Enhanced leadership capabilities to guide teams and influence stakeholders effectively

Organizational Impact

Organizations will benefit through:

- More accurate budgeting and cost control across major engineering initiatives
- Improved schedule reliability and resource utilization
- Proactive risk management supported by data-driven insights
- Stronger project control leadership aligned with strategic objectives

Training Methodology

The course emphasizes practical application through:



- Interactive workshops and expert-led discussions
- Real-world case studies from complex engineering projects
- Hands-on exercises using advanced analytical tools and techniques
- Scenario-based simulations reflecting high-stakes project environments

Beyond the Course

Upon completion, participants will be equipped to:

- Lead project control functions with technical authority and strategic insight
- Apply advanced analytical tools to enhance forecasting accuracy
- Integrate cost, schedule, and risk management into a unified control approach
- Drive measurable improvements in performance across complex engineering projects

This program provides a structured, practical pathway for experienced project control engineers to refine their expertise, strengthen their leadership presence, and deliver consistent success in demanding project environments.

