ADVANCED PROJECT CONTROL ENGINEER



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Introduction

Advanced Project Control Engineer examines how control specialists build, maintain, and interpret the schedule and cost data that govern a project. This Training Course covers planning, progress measurement, earned value, forecasting, and change control. Participants study the PMBOK Guide schedule and cost management processes, AACE International Recommended Practices for cost estimating and schedule development, the DCMA 14-point schedule assessment, the critical path method with total and free float, resource levelling and smoothing, earned value management with SPI, CPI and TCPI, earned schedule, Estimate at Completion methods, S-curves, productivity analysis, the cost breakdown structure and commitment tracking, progress measurement methods weighted milestones and physical percent complete, Statistical Process Control with control charts and run rules, and change control board discipline. Furthermore, the programme connects control data to decisions through schedule health workshops, earned value labs, and progress reporting simulations. As a result, delegates leave able to produce control data that contractors and clients both trust.

Advanced Project Control Engineer Course Objectives

- Define the project control function and its interfaces.
- Apply PMBOK Guide schedule and cost management processes.
- Apply AACE International Recommended Practices to estimating and scheduling.
- Assess schedule quality with the DCMA 14-point assessment.
- Calculate total float, free float, and critical path correctly.
- Apply resource levelling and smoothing techniques.
- Apply earned value management with SPI, CPI, and TCPI.
- Apply earned schedule and Estimate at Completion methods.
- Design progress measurement with weighted milestones and physical percent complete.
- Govern change control, baselines, and reporting integrity.

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Course Methodology

- Interactive workshops using real schedules and cost control data.
- Schedule health and DCMA assessment labs.
- Earned value, earned schedule, and forecast exercises.
- Progress measurement and S-curve workshops.
- Change control and reporting integrity simulations.
- Action planning that converts each session into a workplace commitment.

Who Should Take This Course

- Project control engineers and planners.
- Planning and scheduling engineers.
- Cost engineers and quantity surveyors.
- Project controls managers.
- Earned value analysts.
- Contract and claims specialists.
- PMO analysts supporting project controls.

Advanced Project Control Engineer Course Outlines

Day 1: Foundations of Project Control

- The project control function and its interfaces.
- PMBOK Guide schedule and cost management processes.
- AACE International Recommended Practices overview.
- The cost breakdown structure and work breakdown structure alignment.

- Control accounts and the control account manager role.
- Common failures: unlinked schedules, late updates, missing baselines.
- Building the control framework pack.

Day 2: Schedule Development and Assessment

- Network logic, dependencies, and constraint types.
- Duration estimating methods and productivity factors.
- The DCMA 14-point schedule assessment criteria.
- Total float, free float, and critical path verification.
- Resource levelling, smoothing, and capacity checks.
- Recovery schedules and time impact analysis.
- Building the schedule health pack.

Day 3: Progress Measurement and Cost Control

- Progress measurement methods: weighted milestones and physical percent complete.
- Cost estimates and budget baseline development.
- Commitments, accruals, and cost postings.
- Cost variance analysis and productivity measurement.
- S-curves and cash flow forecasting.
- Invoice certification and payment tracking.
- Building the progress and cost pack.

Day 4: Earned Value, Forecasting, and Analysis

- Earned value management: planned value, earned value, actual cost.
- Schedule performance index, cost performance index, and TCPI.

- Earned schedule and independent estimate at completion.
- Variance at completion and optimistic bias assessment.
- Statistical Process Control with control charts and run rules.
- Root cause analysis of cost and schedule deviation.
- Building the earned value and forecasting pack.

Day 5: Change Control, Reporting, and Integrity

- Change control board design and change request flow.
- Baseline revisions and re-baselining discipline.
- Claims documentation and delay analysis basics.
- Reporting cadence, dashboards, and exception reporting.
- Data integrity: unapproved changes and schedule manipulation.
- Interfaces with contracts, procurement, and finance.
- Personal action plan and continuous improvement.

Conclusion

By successfully completing Advanced Project Control Engineer, participants will have acquired a practical command of scheduling, progress measurement, cost control, earned value analysis, forecasting, and change control. They will know how to build a schedule that passes health assessment, measure progress with methods both parties accept, and forecast completion with transparent logic rather than optimism. In addition, the course prepares delegates to protect data integrity when schedule pressure arrives. As a result, they return to work ready to produce project control data that withstands scrutiny. Gentex Training Center delivers this Training Course with a practical, standards-based approach.

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FAQs for the Advanced Project Control Engineer course

Q1 What is the "Advanced Project Control Engineer" course about?

It is a five-day programme on building, maintaining, and interpreting the schedule and cost data that govern a project. It covers PMBOK Guide schedule and cost processes, AACE International Recommended Practices, the DCMA 14-point schedule assessment, critical path and float analysis, progress measurement, earned value management, earned schedule, and change control.

Q2 What are the key benefits of the "Advanced Project Control Engineer" course?

Participants gain the ability to build a schedule that passes health assessment, measure progress with methods both parties accept, and forecast completion with transparent logic rather than optimism. They also learn to protect data integrity when schedule pressure arrives.

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Q3 What skills will I gain from the "Advanced Project Control Engineer" course?

Control foundations with PMBOK schedule and cost process application, AACE Recommended Practice use, cost breakdown structure alignment, and control account design, schedule work with network logic and dependency analysis, duration estimating and productivity factor application, DCMA 14-point assessment, total float, free float and critical path verification, resource levelling and smoothing, recovery schedule design, and time impact analysis, progress and cost work with weighted milestone and physical percent complete measurement, budget baseline development, commitment and accrual tracking, cost variance analysis, productivity measurement, S-curve and cash flow forecasting, and invoice certification, and earned value and governance with planned value, earned value and actual cost interpretation, SPI, CPI and TCPI calculation, earned schedule application, independent estimate at completion work, variance at completion analysis, control chart application, run rule interpretation, root cause analysis, change control board design, baseline revision discipline, delay analysis basics, reporting design, and data integrity protection.

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Q4 What tools, methods, or standards are covered in the "Advanced Project Control Engineer" course?

The course covers the project control function and its interfaces, PMBOK Guide schedule and cost management processes, AACE International Recommended Practices, the cost breakdown structure and work breakdown structure alignment, control accounts and the control account manager role, common failures across unlinked schedules, late updates and missing baselines, network logic, dependencies and constraint types, duration estimating methods and productivity factors, the DCMA 14-point schedule assessment criteria, total float, free float and critical path verification, resource levelling, smoothing and capacity checks, recovery schedules and time impact analysis, progress measurement methods across weighted milestones and physical percent complete, cost estimates and budget baseline development, commitments, accruals and cost postings, cost variance analysis and productivity measurement, S-curves and cash flow forecasting, invoice certification and payment tracking, earned value management across planned value, earned value and actual cost, schedule performance index, cost performance index and TCPI, earned schedule and independent estimate at completion, variance at completion and optimistic bias assessment, Statistical Process Control with control charts and run rules, root cause analysis of cost and schedule deviation, change control board design and change request flow, baseline revisions and re-baselining discipline, claims documentation and delay analysis basics, reporting cadence, dashboards and exception reporting, data integrity across unapproved changes and schedule manipulation, and interfaces with contracts, procurement and finance.

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Q5 How is the "Advanced Project Control Engineer" course applied in real-world practice?

Delegates apply it through control frameworks, cost breakdown structures, work breakdown structure mappings, control account registers, control account manager assignments, schedule networks, dependency logs, duration estimate sheets, productivity factor records, DCMA 14-point assessment reports, float reports, critical path analyses, resource histograms, levelling reports, recovery schedules, time impact analyses, progress measurement plans, weighted milestone registers, physical percent complete records, cost estimates, budget baselines, commitment registers, accrual schedules, cost postings, cost variance reports, productivity reports, S-curves, cash flow forecasts, invoice certifications, payment trackers, earned value reports, planned value registers, earned value tables, actual cost reports, SPI and CPI calculations, TCPI models, earned schedule analyses, independent estimate at completion reports, variance at completion reports, optimistic bias assessments, control charts, run rule assessments, deviation root cause reports, change control board charters, change request logs, baseline revision records, re-baselining approvals, claims files, delay analyses, reporting calendars, control dashboards, exception reports, data integrity checklists, and interface protocols with contracts, procurement and finance. They also use it to chair progress and change control meetings and to present control performance to project and client leadership.