

Earned Value Management Training Program Course Brochure and Competency Matrix

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1. Company Introduction

Project Controls Institute (PCI) is World's first and most unique Project Controls learning platform offering blended education alongside a flexible framework of global accreditations and qualifications. PCI combines unique content with blended learning methods, mapped to major global frameworks that allows candidates to gain accreditations/certifications with AACET, PMI, APM, ECITB and Engineering Council UK. PCI is also supported by globally recognised professional bodies such as Engineers Australia and ACostE.

Through a simulated classroom experience, you'll be taught by industry experts to not only understand the Project Controls theory that's essential to your career development, but how to use software systems in a real-world, operational setting. What's more, you'll also get access to the PCI Handbook for free. Learn with us and wherever you are in the world, we will help you achieve the qualifications that will set you apart.

2. Training Program Description

Course Name: Advanced Earned Value Management.

Dedicated online training module in a structured and professional manner to understand the fundamental concepts of Earned Value Management System (EVMS). Organize the project/ programme/ portfolio scope into a meaningful structure for execution and implementing the sound EVMS, Planning, Scheduling and Budgeting, Preparation of Performance Measurement Baseline (PMB), Integrated Baseline Review (IBR), Collection and reporting of project actuals, progress reporting, analysis & management reports and change management.

This training distinguishes you as a professional that has the skills and knowledge that is benchmarked with international Earned Value Management practices.

Advanced Earned Value Management course is prepared to develop the competency (knowledge and skills) in organizing scope for execution, implementing sound EVMS, Preparation of Performance Measurement Baseline (PMB), Integrated Baseline Review (IBR), Collection and reporting of project actuals, progress reporting, analysis & management reports and change management.

▶ 2.1 Course Development

Our course is prepared by the industry experts who helped Governmental and Professional bodies to draft their national standards and certificates.

This course is mapped to the following standards or guides:

1. ANSI/EIA -748 standards
2. The Earned Value Management Compass (APM)
3. Practice Standard for Earned Value Management—Second Edition (PMI)
4. Earned Value Management: APM Guidelines, 2nd edition
5. Earned Value Management Handbook (APM)
6. Interfacing Risk and Earned Value Management (APM)
7. AACE's Earned Value Professional Certification Study Guide, 3rd Edition
8. AACE's Skills & Knowledge of Cost Engineering, 6th Edition
9. AACE's Total Cost Management Framework
10. ECITB – Level 3 and Level 5 diploma in project controls.
11. Earned Value Project Management, 3rd Edition

▶ **2.2 Certifications mapped**

This course leads to the following certifications:

- ▶ AACEi - Earned Value Professional (EVP) certification
- ▶ ECITB – Level 3 and Level 5 diploma in project controls.
- ▶ Engineering Council - IEng (Incorporated Engineer), and CEng (Chartered Engineer)

▶ **2.3 Prerequisites for certification exams:**

A. AACEi Prerequisites:

- ▶ 8 years industry related experience or 4 years industry related experience +4-year industry related college degree.
- ▶ Adherence to AACE's Canons of Ethics.

B. ECITB Prerequisites:

- ▶ There are no age or formal entry requirements that you are required to take for this qualification. However, it's recommended that you have a basic understanding of project management.

▶ **2.4 Notes**

A. AACEi

- ▶ PCI helps to prepare for an AACEi EVP exam, however, participants need to apply and appear for AACEi EVP exam.
- ▶ PCI awards a certificate of completion of EVP certification review course or a letter supporting attendee's participation and Continuing Education Units (CEU).

B. ECITB

- ▶ PCI helps to prepare for ECITB Level 3 and Level 5 Diploma in Project Controls Practice.
- ▶ PCI assesses candidates and awards ECITB Level 3 and Level 5 Diploma in Project Controls Practice.

C. Engineering Council

- ▶ PCI facilitate IEng (Incorporated Engineer), and CEng (Chartered Engineer) accreditation offered by the Engineering Council UK via ACostE route.

This course includes exam preparation only, assessment and further support is optional. All accreditations, assessments and certifications are subject to eligibility.

3. Training Delivery Options

- ▶ Online Training – Access to 12 hours of high quality E-learning videos, knowledge check questions and assessments.
- ▶ Blended training.

4. Course Syllabus

Module#	Module Description
1	Introduction and EVM Principles
2	Organizing Projects/Programme/Portfolio
2.1	Work Breakdown Structure (WBS)
2.2	Organization Breakdown Structure (OBS)
2.3	Responsibility Assignment Matrix (RAM)
2.4	Work Authorization (WA)
3	Planning, Scheduling and Budgeting
3.1	Critical Path Method (CPM) Schedules
3.2	Milestones and deliverables
3.3	Technical Performance Requirements
3.4	Performance Measurement Baseline (PMB)
3.5	Risk Assessment and Mitigation
3.6	Control Account (CA), Work Packages (WP), Planning Packages (PP)
3.7	Cost Elements
3.8	Contingency and Management Reserves (MR)
3.9	Undistributed Budget
3.10	Over Target Baseline (OTB)
3.11	Integrated Baseline Review (IBR)
3.12	Earned Value Management Methods/Techniques

4	Accounting Considerations
4.1	System Identification
4.2	Direct Costs
4.3	Control Account Actuals
4.4	Indirect Costs
4.5	Unit and Lot Costs
4.6	Material Planning and Control
5	Progress Reporting, Analysis and Management Reports
5.1	Progress Reporting
5.2	Variance Reporting
5.3	Customer Reporting Submittals
5.4	Risk Mitigation
5.5	Managerial Analysis
5.6	Estimate at Completion, Estimate to Complete
5.7	Subcontract Management
6	Change Management
6.1	Change Control
6.2	Reconciliation
6.3	Retroactive changes

5. Program Format

This program will be delivered in an interactive, practical, E learning video format along with knowledge check questions and assessment. Theory will be supported and illustrated through a combination of real-world examples.

The USP of our courses is that these are developed by experts working on real life projects and hence the course content reflects the practical aspects and challenges faced by the professionals and industry during the project delivery.

6. Expected Audience Profile Background

This course is suitable for everyone who is part of any team that executes industrial projects. If possible, groups will be composed of organizations that are supplementing each other to allow all participants to learn as much as possible. This course is primarily aimed at:

- ▶ Project Manager/ Director
- ▶ Finance Project Executive / Manager
- ▶ Project Engineer
- ▶ Cost Engineer/ Estimator
- ▶ Risk Manager
- ▶ Planner and/or Scheduler
- ▶ Project Controls Engineer

7. Course Competency Matrix

Module 1	Introduction to Earned Value Management Principles
This module is designed to develop the ability of the learner to understand Earned Value Management (EVM), ANSI/EIA-748 standards, overview of APM “The Earned Value Management Compass” and earned value management principles.	
Knowledge	Application of the subject
Understand concepts and fundamental principles of the earned value management system (EVMS).	<ul style="list-style-type: none"> ▶ Document the criteria for implementing the sound EVMS for Project/ Programme/ Portfolio. ▶ Review the status of the Project/ Programme/ Portfolio using EVM.
Understand the Following: <ul style="list-style-type: none"> ▶ ANSI/EIA-748 Standards ▶ APM “The Earned Value Management Compass” for improving project control and earned value management processes. 	<ul style="list-style-type: none"> ▶ Document the compliance with ANSI/748 standards or APM EVM Compass. ▶ Perform earned value maturity of the organization and identify areas of improvement.
Understand functional processes for project controls within the Total Cost Management (TCM) framework of AACEi.	Apply AACEi TCM process map for performance measurement of the Project/ Programme/ Portfolio.
Use of EVM to reduce the legal compliance risk.	
Module 2	Organizing Projects/ Programme/ Portfolio
This module is designed to develop the learner’s competence to: <ul style="list-style-type: none"> ▶ Organize the project/ programme/ portfolio scope into a meaningful structure for execution and implementing the sound EVMS. ▶ Organizing scope to enable integration of the planning, scheduling, budgeting, work authorization and cost accumulation process within the defined WBS and OBS. ▶ Vertical and Horizontal rollup of the schedule and costs for the WBS and OBS. 	

Knowledge	Application of the subject
Work Breakdown Structure (WBS) Understand the project scope definition, concepts of work Breakdown Structure (WBS), benefits of WBS and techniques for developing the WBS. The difference between WBS and control account.	<ul style="list-style-type: none"> ▶ Integration of Project scope, schedule and cost in WBS. ▶ Develop WBS based on the type of complexity of the project.
Develop understanding about the concept and the types of Organization Breakdown Structure (OBS).	Develop OBS based on the type of organization structure.
Understand concepts and use of Responsibility Assignment Matrix (RAM).	Prepare the RAM for the project. Define responsibility for the work packages using the RAM.
Get familiar with the concepts of Control Account (CA) plan as a major management control point.	Develop control accounts and control accounts plan to: <ul style="list-style-type: none"> ▶ Define the scope ▶ Responsibility assignment ▶ Work authorization ▶ Cost summarization ▶ Variance analysis ▶ Reporting
Understand overhead cost organization.	Document indirect account structure, organizational assignment/ authority level and controlling of indirect cost.
Module 3	Planning, Scheduling and Budgeting
This module is designed to develop the ability of the learner to understand the following: <ul style="list-style-type: none"> ▶ Planning and Scheduling. ▶ Elements of contract price and their concepts, i.e. Performance Measurement Baseline (PMB), Control Account (CA), Undistributed Budgets (UB), Summary Level Planning Packages, Work Packages (WP) and Management Reserve (MR). ▶ Rules of performance or Methods of progress measurement. ▶ Over Target Baseline (OTB). ▶ An integrated Baseline Review (IBR). 	
Knowledge	Application of the subject
Planning Understand the following: <ul style="list-style-type: none"> ▶ The planning process. ▶ Opportunity for influence in the project. ▶ Understand types of the contract. 	<ul style="list-style-type: none"> ▶ Develop planning statement of the work (project goals, scope, milestone and deliverables etc). ▶ Prepare strategy for the execution of the project with project manager. ▶ Develop planning specifications. ▶ Model plans to adapt to the current project (Time planning, resource planning and planning for risk and contingencies etc). ▶ Establish a planning culture. ▶ Gain stakeholder buy-in.

Understand steps involved in developing the performance measurement baseline (PMB).	Develop PMB for the project.
Estimating Understand the elements of direct and indirect costs.	<ul style="list-style-type: none"> ▶ Prepare the project estimate. ▶ Prepare and divide project estimate into direct cost and indirect cost.
Risk Review and understand: <ul style="list-style-type: none"> ▶ The risk management process ▶ Typical risk items that may impact the project ▶ Fundamentals of risk assessment, techniques and handling strategy ▶ Cost and schedule risks in the project ▶ Types of contingencies 	<ul style="list-style-type: none"> ▶ Prepare a risk register for the project. ▶ Perform risk management for the process. ▶ Estimate the impact of the risk and incorporate cost and schedule contingency into the project baseline.
Understand elements of contract price and their concept: <ul style="list-style-type: none"> ▶ Performance Measurement Baseline (PMB) <ul style="list-style-type: none"> a. Control Accounts (CA) b. Undistributed Budgets (UB) c. Summary Level Planning Packages d. Work Packages (WP) e. Planning Packages (PP) ▶ Management Reserves (MR) 	Divide the contract price in different elements. Document the method for controlling MR via <ul style="list-style-type: none"> ▶ Change control process. ▶ Prepare rolling wave plan.
Understand methods of project performance measurement.	Document and implement methods for project performance measurement.
Integrated Baseline Review (IBR).	Perform the Integrated Baseline Review (IBR).
Understand concepts of Over Target baseline (OTB).	Develop methodology to implement the change or re-baselining.
Scheduling Review and understand the following concepts: <ul style="list-style-type: none"> ▶ Bar charts & PDM logic networks ▶ Schedule calculations & Considerations ▶ Schedule specifications, development and use ▶ Input/ Data used in schedule model building ▶ Understand levels of schedule ▶ Creating schedule ▶ Resource scheduling ▶ Updating schedules for progress & forecasting ▶ Schedule recovery & Acceleration 	<ul style="list-style-type: none"> ▶ Document scheduling specifications. ▶ Develop logic linked and resource loaded schedule (Level 0/1/2/3/4/5). ▶ Resource Optimization. ▶ Review and analyse the schedule. ▶ Critical path analysis. ▶ Perform schedule health check based on DCMA 14 points. ▶ Update and monitor the schedule. ▶ Prepare a recovery schedule.

Module 4	Accounting Considerations
This module is designed to develop the ability of the learner to understand the cost accounting standards (CAS), Collection and reporting of project actuals (AC) and Mapping actual costs to the appropriate final cost objective.	
Knowledge	Application of the subject
Develop understanding of: <ul style="list-style-type: none"> ▶ Accounting system Identification ▶ EVMS accounting requirements for detailed and accurate data for variance analysis ▶ How to organize the cost ▶ Control account actuals 	<ul style="list-style-type: none"> ▶ Develop Consistent and accurate collection and reporting of the actual cost and accruals. ▶ Ensures that actual costs are collected and compared to the performance in the same manner as planned. ▶ Ensure accurate summarization and mapping of the costs from the General Accounting ledger to the control account actual cost (WBS rollup). ▶ Develop Material Account System (Material Cost Accumulation).
Module 5	Progress Reporting, Analysis and Management
This module is designed to develop the ability of the learner to understand the progress reporting, variance reporting, customer reporting submittals and analyse project performance analysis.	
Knowledge	Application of the subject
Understand concepts and basis of calculations for: <ul style="list-style-type: none"> ▶ Key parameters of progress reporting. ▶ Performance indices and metrics. ▶ Statistical Forecasting for Estimate At Complete (EAC). ▶ Variance calculations. 	<ul style="list-style-type: none"> ▶ Document the monthly progress reporting and analysis process along with reporting calendar and responsibilities. ▶ Calculate EAC and ETC.
Understand monthly project reporting process (inputs and outputs).	<ul style="list-style-type: none"> ▶ Preparation of cost performance report (CRP). ▶ Generates planning and performance data at the appropriate level to be used by management in the decision making process.
	<ul style="list-style-type: none"> ▶ Variance Analysis and Reporting. ▶ Identify and document causes for deviations. ▶ Prepare data quality report for the reporting.

Module 6	Change Management
This module is designed to develop the ability of the learner to understand the concepts of change management and systematic method to deal with the changes.	
Knowledge	Application of the subject
Understand the types of Changes: <ul style="list-style-type: none"> ▶ External or Customer directed ▶ Internal ▶ Reprogramming 	Document the change control process.
Understand the change control process.	Perform formal reprogramming or re-baselining.
Understand the conditions for formal reprogramming.	Reconcile the changes.
	Maintains a record log of all Baseline Changes.
	Perform retroactive changes.

Note – Our course brochures are updated on a regular basis for continuous improvement