Project Controls Institute, AUSTRALIA

Integrated Project Controls Training Program

Course Brochure and Competency Matrix

INDEX:

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1. Company Introduction

Project Controls Institute, Australia is World's first and most unique Project Controls learning platform offering blended education alongside a flexible framework of global accreditations and qualifications. Project Controls Institute, Australia combines unique content with blended learning methods, mapped to major global frameworks that allows candidates to gain accreditations/certifications with AACEi, PMI, APM, ECITB and Engineering Council UK. Project Controls Institute, Australia 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 Project Controls Institute, Australia 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: Integrated Project Controls.

Dedicated online training module in a structured and professional manner allows candidates to demonstrate knowledge of all elements of project management/project controls. Candidates will be able to demonstrate an understanding of how these elements interact and how their project fits into their strategic and commercial environment.

This training course is prepared for fresher's or early-career professionals to understand and demonstrate knowledge of project management/project controls.

Integrated Project Controls course is prepared to develop the competency (knowledge and skills) in project management, planning and scheduling, cost engineering, cost estimating, integrated performance measurement and forecasting, risk management, change management, contracts management, forensic and dispute analysis and BIM skills.

2.1 Course Development

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

This course is mapped to the following standards or guides:

1. AACE's Certified Cost Technician Primer
2. AACE's Certified Scheduling Technician Primer
3. AACE's Recommended Practices 11R-88 and 10S-90
4. AACE's Skills & Knowledge of Cost Engineering, 6th Edition
5. AACE's Total Cost Management Framework
6. APM Body of Knowledge, 6th Edition
7. ECITB – L2 Diploma in Project Control, Estimating, Planning and Cost Engineering
8. A Guide to the Project Management Body of Knowledge (PMBOK® Guide)

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2.2 Certifications mapped

This course leads to the following certifications:

A. AACEi - Certified Cost Technician (CCT)
B. AACEi – Certified Scheduling Technician (CST)
C. ECITB – L2 Diploma in Project Control, Estimating, Planning and Cost Engineering
D. Engineering Council - Eng. Tech (Engineering Technician)
E. Project Control Technician (L3)

2.3 Prerequisites for certification exams:

A. AACEi Prerequisites:

- 4 years of industry related experience, or 4 years industry related degree.

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

- Project Controls Institute, Australia helps to prepare for an AACEi CCT and CST exam, however, participants need to apply and appear for AACEi CCT and CST exam.
- Project Controls Institute, Australia awards a certificate of completion of CST & CCT certification review course or a letter supporting attendee's participation and Continuing Education Units (CEU).

B. ECITB

- Project Controls Institute, Australia helps to prepare for L2 Diploma in Project Control, Estimating, Planning andCost Engineering.
- Project Controls Institute, Australia assesses candidates and awards ECITB L2 Diploma in Project Control, Estimating, Planning and Cost Engineering.

C. Engineering Council

- Project Controls Institute, Australia facilitate Eng Tech (Engineering Technician) accreditation offered by theEngineering 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.

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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	**Project Management**
1.1	Project Management Fundamentals
1.2	Portfolio and Program Management Fundamentals
1.3	Project Organization Structure
1.4	Project Communications
1.5	Leadership and Management of Project People
1.6	Project Stakeholder Management
1.7	Project Scope Management
1.8	Project Integration Management
1.9	Quality Management
1.10	Value Engineering
1.11	Contracting for Capital Projects
1.12	Strategic Asset Management
1.13	Avoiding claims and Disputes
2	**Project Controls Framework**
2.1	Definition & Scope of Project Controls
2.2	Importanc e of Project Controls
2.3	Objective of Project Controls
2.4	Integrated Project Controls Framework
2.5	Implementation of Project Controls at Project/Organizational level
3	**Planning and Scheduling**
3.1	Principles of Planning
3.2	Principles of Scheduling
3.3	Risk Management and contingency applied to Planning & Scheduling

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4	Cost Engineering
4.1	Role of a cost engineer in an organization in Engineering and Manufacturing environment
4.2	Cost Elements
4.3	Pricing and Costing - Material, Labour, Equipment, Parts and Tools
4.4	Activity -Based Cost Management
4.5	Project and Cost Control
4.6	Financial and Cash Flow Analysis
4.7	Investment Decision-Making Guide
4.8	Optimization
4.9	Total Cost of Ownership
4.10	Cost Engineering principles applied for EPC Projects
4.11	Cost Engineering principles applied for Manufacturi ng Projects
5	**Project Cost Estimation**
5.1	Estimating Definitions
5.2	Project Life Cycle and estimate classifications
5.3	Constant Value Money
5.4	Escalation
5.5	Estimating from initiation to close-out phase
5.6	Total Cost of Ownership
5.7	Activity allowances
5.8	Contingency and Risk assessment/Manag ement
5.9	Ties between cost estimation, cost control and planning
5.10	Cost Estimating Methods
6	**Integrated Performance Measurement and Forecasting**
6.1	Earned Value Overview
6.2	Establishing the Performance Measurement Baseline
6.3	Performanc e and Productivity Measurement
6.4	Forecasting with EV
6.5	Communication and Reporting
6.6	Earned Value Management Maturity
6.7	Risk management in performanc e measurement and forecasting
7	**Risk Management and Decision Making**
7.1	Risk Management Process (Standard ISO 31000)
7.2	Risk Analysis
8	**Change Management**
8.1	Definition of Change Management
8.2	Different Types of Project Change
8.3	Objectives of Project Change Management
8.4	The Project Change Management Process

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8.5	Change Management System (CMS)
8.6	Key issues and challenges
9	**Contracts Management**
9.1	Introduction to NEC Contracts
9.2	FIDIC Contracts
10	**Forensic and Dispute Analysis**
10.1	Classification of Analysis
10.2	Time Impact Analysis
10.3	Collapse As-Built Analysis
10.4	Windows/Time Slice Analysis o As-Planned v As-Built
10.5	Delay claims & efficiency loss analysis
10.6	Alternative dispute resolution techniques
10.7	Calculation of direct & indirect delay damages
11	**Introduction to BIM - Building Information Modelling**

5. Programme Format

This programme 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 Managers
- Project Accountants
- Project Planners
- Schedulers
- Project Engineers
- Cost Engineer/Estimator
- Risk Manager
- Project Controls Engineer

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7. Course Competency Matrix

Module 1	Project Management
This module is designed to develop the ability of the learner to under tand the fundamentals of project management, project org ani nation structure, communications , management of human resources in the project, quality management, value engineering , contracting for capital projects and strategic asset management.	
Knowledge	**Skills**
Understand concepts and fundamental principles of the following: ▸ Project Management Fundamentals. ▸ Portfolio and Program Management Fundamentals. ▸ Project Organization Structure. ▸ Project Communications. ▸ Leadership and Management of Project. ▸ Project Scope Management. ▸ Project Integration Management. ▸ Quality Management. ▸ Value Engineering. ▸ Contracting for Capital Projects. ▸ Project Stakeholder Management. ▸ Strategic Asset Management. ▸ Avoiding claims and Disputes.	▸ Implement project management concepts to achieve project success (cost savings, minimising schedule delays and an improved economic return etc.). ▸ Prepare project organization structure for effective communication and governance. ▸ Prepare project charter. ▸ Identify project stakeholders. ▸ Use quality management to ensure product meets expected quality. ▸ Analyse impact of value engineering on budget and schedule. Assist in developing strategies for contracting of capital projects. ▸ Implement strategic asset management. ▸ Analyse impact of delays and claims on schedule and budget.

Module 2	Project Controls Framework
This module is designed to develop the ability of the learner to understand the fundamental concepts of Project Controls and its framework.	
Knowledge	**Skills**
Understand concepts and fundamental principles of the following: ▸ Definition and Scope of Project Controls. ▸ Importance of Project Controls. ▸ Objectives of Project Controls. ▸ Integrated Project Controls. ▸ Framework.	▸ Implementation of Project Controls framework, Project/Organizational level. ▸ Establish project controls culture.

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Module 3	Planning And Scheduling
This module is designed to develop the ability of the learner to understand and implement the concepts of planning, scheduling and risk management and contingency applied to planning & scheduling.	
Knowledge	**Skills**
Understand concepts and fundamental principles of the following: ▸ Project Planning. ▸ Scheduling. ▸ Risk Management and contingency applied. ▸ Planning & Scheduling.	▸ Define Project Plan and execution strategy. ▸ Organize the scope for meaningful execution. ▸ Establish WBS, OBS and CBS based on type and complexity of the project. ▸ Model plans. ▸ Document scheduling specifications. ▸ Develop logic linked and resource loaded schedule (Level 0/1/2/3/4). ▸ Resource levelling. ▸ Perform schedule quality analysis. ▸ Schedule monitoring, controlling and reporting. ▸ Prepare impact schedules. ▸ Prepare acceleration schedules. ▸ Perform risk management for planning and scheduling.
Module 4	**Cost Engineering**
This module is designed to develop the ability of the learner to understand the role of cost engineer and implement the concepts of cost engineering.	
Knowledge	**Skills**
Understand concepts and fundamental principles of the following: ▸ Cost Elements. ▸ Pricing and Costing. ▸ Activity based cost management. ▸ Project and Cost Control. ▸ Financial cash flow analysis. ▸ Investment Decision making Guide. ▸ Optimization. ▸ Total Cost of Ownership. ▸ Cost Engineering principles applied for EPC Projects. ▸ Cost Engineering principles applied for Manufacturing Projects.	▸ Relate the cost elements to the life cycle of the asset. ▸ Acquisition, use and disposal. ▸ Calculate financial ratios related to the costing and pricing of projects. ▸ Identify types of project materials. ▸ Develop labor rates for estimating. ▸ Develop and use weighted average rates/composite crew rates. ▸ Establish an equipment valuation database. ▸ Research equipment price and cost information. ▸ Evaluate, on an economic analysis basis, the differences between two or more alternative courses of action. ▸ Identify how cost drivers cause costs to occur. ▸ Prepare cash flow for the project. ▸ Apply cost engineering principles to EPC or manufacturing projects.

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Module 5	Project Cost Estimation
This module is designed to develop the ability of the learner to understand the fundamental concepts of cost estimating and its integral importance to the quality of the cost and scheduling program on any project.	
Knowledge	**Skills**
Review and understand the following concepts: ▸ Estimating Definitions. ▸ Project Life Cycle and estimate classifications. ▸ Constant Value Money. ▸ Escalation. ▸ Activity allowances. ▸ Contingency and Risk assessment/Management. ▸ Ties between cost estimation, cost control and planning. ▸ Cost Estimating Methods.	▸ Prepare cost estimate. ▸ Relate estimate accuracy to the level of scope information and methodologies used in preparing cost estimates. ▸ Apply the estimating knowledge to specific project estimating situations. ▸ Distinguish between direct and indirect costs. ▸ Estimate contingency. ▸ Calculate escalation.
Module 6	**Integrated Performance Measurement and Forecasting**
This module is designed to develop the ability of the learner to understand the concepts of Integrated Performance Measurement and Forecasting.	
Knowledge	**Skills**
Review and understand the following concepts : ▸ Earned Management Overview. ▸ Performance Measurement Baseline (PMB). ▸ Performance and Productivity Measurement. ▸ Forecasting Earned Value Management. ▸ Communication and Reporting. ▸ Earned Value Maturity Process.	▸ Establish Performance Measurement Baseline (PMB). ▸ Implementation of earned value management system for cost control. ▸ Analyse productivity and performance. ▸ Identify ways to increase productivity and improve performance. ▸ Forecast estimate to complete and estimate complete. ▸ Prepare cost performance report, analyse deviations and reporting.
Module 7	**Risk Management and Decision Making**
This module is designed to develop the ability of the learner to understand the concepts of Risk Management and Decision Making.	
Knowledge	**Skills**
Review and understand the following concepts: ▸ Risk Management Process. ▸ Risk Analysis.	▸ Organize workshops for risk identification. ▸ Prepare risk register. ▸ Perform qualitative and quantitative risk assessment. ▸ Perform Cost Risk Analysis (CRA). ▸ Perform Schedule Risk Analysis (SRA).

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Module 8	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	**Skills**
Review and understand the following concepts: ▸ Change Management Definition. ▸ Different types of Project Change. ▸ Objectives of project change management. ▸ Change Management Process. ▸ Change Management System. ▸ Issues and Challenges in the Change Management.	▸ Document the change control process. ▸ Analyse impact of change on baseline schedule and cost. ▸ Perform formal reprogramming or re-baselining. ▸ Reconcile the changes. ▸ Maintains a record log of all Baseline Changes.
Module 9	**Contracts Management**
This module is designed to develop the ability of the learner to understand the concepts of Contracts Management.	
Knowledge	**Skills**
Review and understand the following concepts: ▸ Introduction to NEC Contracts. ▸ FIDIC Contracts.	▸ Understand contractual terms and conditions. ▸ Implementation of sound project management principles within requirements specified in contract. ▸ Use contracts management in a wide variety of contractual situations.
Module 10	**Forensic and Dispute Analysis**
This module is designed to develop the ability of the learner to understand the concepts of Forensic and Dispute Analysis.	
Knowledge	**Skills**
Review and understand the following concepts: ▸ Classification of Analysis. ▸ Windows/Time Slice Analysis of As-Planned v As-Built. ▸ Alternative dispute resolution techniques.	▸ Prepare time impact analysis and extension claims. ▸ Prepare as built schedule. ▸ Prepare Delay claims & efficiency loss analysis. ▸ Calculation of direct & indirect delay damages.
Module 11	**Introduction to BIM- Building Information Modelling**
This module is designed to develop the ability of the learner to understand the concepts of Building Information Modelling (BIM) and its use in project controls.	

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

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