

Construction Project Planning & Integration

Training program

Introduction:

This course addresses the methodologies, tools and techniques to plan, implement, and integrate construction projects. It covers various aspects of pre-construction planning techniques such as line of balance, bar charts, critical path method (CPM) and program evaluation review technique (PERT). The candidates are given the developer's and contractor's perspectives to implementation management deploying the tools for effective construction project implementation, including selecting the appropriate project organization and staff and providing procedures for ensuring construction site health and safety requirements.

Project integration procedures are covered involving the people, process, tools and support aspects, as well as the range of industry methodologies applied to construction project management. Hands-on practical exercises are used to cover the fundamental concepts of the course. This course covers various aspects of construction project planning and integration including selecting the appropriate project organization and staffing, then planning for construction site health & safety. Typical pre-construction planning techniques are introduced and developed such as Line of Balance, Bar Charts & CPM.

Who Should Attend?

Construction Engineers, Senior Construction Engineers, Construction Supervisors, Construction General Supervisors, Construction Project Managers, Engineering Technologists, Supervision Engineer, Inspection Engineers, Civil Inspectors, Foremen, Design Structural Engineers, Planners, Structural Engineers, Material Specialists, Quality Control and Quality Assurance Experts, Architects, Supervision Engineers, Team Leaders, Site Officers and Managers, Mechanical Engineers, Technical Professionals, Field Production Supervisor, Operation Engineers, Clients Representatives.

Course Objectives:

By the end of this course delegates will be able to:

- Develop professional work attitude & ability to plan project organizations & staff structures in keeping with construction contracts
- Plan a construction health & safety program within the guidelines of the OHSA and construction regulations
- Develop and apply the Critical Path Method (CPM) & other techniques for planning the main resources on a construction project

- Apply construction communication & reporting methods to keep the project team informed of performance and variances
- Develop and utilize effective approaches for contractor's site planning & management for the efficient use of time, space, man, materials, machine, methods & money

Course Outline:

Introduction and Basic Concepts

- Icebreaker
- Learning Concepts
- Approaches & Rules of Order

Project Organizations & Integration

- Assessment & selection of project organizational structures
- Selection of Form of Contracts
- Developer's Perspective
- Contractor's Perspective
- Project Integration

Construction Project Health & Safety Regulations

- The Occupational Health & Safety Act
- WHMIS, Construction Regulations
- The right to know & to refuse dangerous work
- Falls & Young Workers

Implementation of a Construction Project Health & Safety Policy & Plan

- Preparation of Health & Safety Policy
- Preparation of Health & Safety Plan
- The Role of The Health & Safety Committee
- Orientation & Training
- Compensation & Return to work

Construction Planning Techniques: Line of Balance

- Line of Balance
- Milestone
- Bar Charts
- Linked Bar Chart & Cash Flow Planning

Construction Planning Techniques: Critical Path Method

- The Critical Path Method, Forward & Backward passes
- Critical Path - implications and uses
- Float – Free & Total
- Resources Levelling & Planning

Construction Management Control Baselines

- The Quad constraints: Scope, Time, Cost, Quality
- WBS & The Scope Statement
- Time Management
- Cost Management
- The Specifications & Quality Management
- Change Order/Directive

Construction Communication & Reporting

- Project Communication Management
- Project Reporting
- Planning for Project Risks

Developers/ Contractors Project Team

- The Implementation Framework & Contract
- The Agreement between the Developer & the PM
- The role of the Developer's Project Manager/ Resident professional/ Design Team
- The Agreement between the Contractor & the PM
- The role of the Contractor's Project Manager/Site Manger/Supervisor & Foreman

Contactor's Site Planning & Management

- Site Planning & Logistics
- Meeting & Document Management
- Setting Task and Sub-contract rates
- Selecting & Assigning work –WBS
- Site Management

Improving Implementation Efficiency: Techniques

- Crashing/ Fast racking work
- Bonus Payment & benchmarks
- Layout Efficiency
- Resources Planning: levelling & activity sampling

Improving Implementation Efficiencies: Human Resources

- Motivation Theories & Practice
- Staff Selection
- Inspection & Supervision: Approval / Rejection/Modification/Checklists

- Team Work & dynamics
- Work Study & Performance Metrics