

PROJECT MANAGEMENT FUNDAMENTALS **Planning, Scheduling and Controlling Techniques**

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Introduction:

All projects are endeavors undertaken to create unique products or services. Such projects are undertaken at all levels in every organization. Because every project involves different challenges and inherent risks, these projects require a special kind of Management. Project Management has become an important Management tool and proven Methodology for clients for effective planning, executing, and monitoring & control of project cost, time, and quality in order to deliver successful projects for its customers and end users.

During this hands-on dynamic course, participants will learn the principles of effective project management and will gain practical experience in applying the primary tools used by project and construction managers. The course covers EFFECTIVE STEPS for planning, organizing, staffing, scheduling, executing, monitoring, and controlling techniques required for successful project management.

You will learn how to manage every aspect of a project to achieve schedule, budget, and performance objectives. You will have full understanding of the concepts needed to manage resources efficiently to achieve project goals, and you will discover the importance of being proactive and exercising your leadership and communication skills.

Course Goals and Objectives:

In broad terms, the course goals and objectives are:

1. To provide the delegates with the fundamental skills of project management, with emphasis on project delivery, systematic planning and executing/implementing strategies for effective project administration and control.
2. To identify the key stages in a project life cycle (project phases) to ensure the project completion on time, within budget and to the required technical specifications.

3. To provide the participants with the effective concepts, tools and techniques that can be applied to successfully manage projects with greater responsibilities, through effective communications skills.

The participants will gain the broad understanding required for managing major projects as well as learning the effective tools for achieving successful projects within shorter schedules and with lower costs.

THE PARTICIPANTS WILL LEARN WITH US THE TWELVE STEPS IN PROJECT MANAGEMENT:

1. Define the goal and objective of the project. (What, Why, How, Where, When, How Much and Who), and creating the **Project Charter**.
2. Develop a detailed **Scope Definition**, and effective Work Breakdown Structure (**WBS**)
3. Appoint/assign the **Project Manager**, define his role, list Organizational responsibilities and accountability for each sub-projects, or work packages (**OBS**), and **Project Team development**
4. Prepare a list of activities for each sub project or work package (**Activity List**).
5. Estimate the **time duration and cost** of each activity and the resources required completing it.
6. Prepare the schedule based on available resources (Resource Allocation). This develops the **Project baselines** (schedule and cost).
7. Review, evaluation and decision by Management on the **PROJECT PLAN**.
8. Distribute project plan and execute assignments. Project (**Tracking & Monitoring**)
9. Update project plan to show work completed and percentage of performance.
10. Apply **Earned Value Management** System and **Variance Analysis** for Effective Control of projects
11. **Forecast time and cost** to complete projects
12. Generate **Project Status Reports** with respect to time and cost.

In addition the participants will develop skills in major areas of PMBOK (Overview):

The Project Management Body of Knowledge (PMBOK) is an inclusive term that describes the sum of knowledge within the profession of Project Management. As with other professionals such as law, medicine, and accounting, the body of knowledge rests with the practitioners and academics that apply and advance it. The full project management body of knowledge includes knowledge of proven best practices, tools and techniques that are widely accepted, applied, and implemented in various industries for delivering successful projects to clients.

This program is based on PMBOK elements which are :

1. Project Integration Management
2. Project Scope Management
3. Project Time Management
4. Project Cost Management
5. Project Quality Management
6. Project Human Resource Management
7. Project Communications Management
8. Project Risk Management
9. Project Procurement Management

In essence, this workshop is about "Successful Project Management". It covers (1) Project Planning, (2) Defining your scope, goals and objectives, (3) Estimating Time, Cost and Resources; (4) Project Scheduling; (5) Project Control; (6) Project Organization and Team Development; and (7) Leadership and Communication Skills in Project Management.

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COURSE OUTLINE (5 days)

1. INTRODUCTION TO PROJECT MANAGEMENT

- The Project Life Cycle and its Different Phases
- Project Environment
- Defining Project Scope
- Different Project Delivery Systems – Traditional vs. New Approaches
- Define Goals and Objectives of the Project
- Developing the Project Plan
- Level of Influence Concept
- Challenges in Executing Projects that require the use of PM Methodology
- Application of Project Management Methodology in Multi-Project Environment:
 - Project Definition and Characteristics
 - Project Life Cycle Parameters
 - **PMBOK “Project Management Body of Knowledge”**
 - PM Standards
- **Project Management Five Processes**
 - Initiating
 - Planning
 - Executing
 - Monitoring and Controlling
 - Closing

2. PROJECT PLANNING PHASE

- Breakdown into Sub-projects
- Strategic Planning for Major Projects
- WBS (Work Breakdown Structure) Concepts
- Rules to Create a WBS
- Purpose of WBS
- Assigning Responsibility and Accountability via the Use of Organizational Breakdown Structure (OBS)

- Preparation of Activity List
- Level of Detail
- Estimate Time Duration and Cost of each Activity or Task
- Estimate Project Resources (type, quantity, etc.) Required and Availability during the Project Period
- **Project Scope Management**
 - Collect requirements
 - Define scope
 - Create WBS
 - Verify scope
 - Control scope
- **Project Human Resource Management**
 - Develop Human Resource Plan
 - Acquire Project Team
 - Develop Project Team
 - Manage Project Team

3. PROJECT SCHEDULING PHASE

- Identify Major Milestones
- Building the Project Model
- Multiple Projects Resource Allocation, Leveling and Management
- Problems encountered with Resource Allocation and Solutions
- Prepare the Master Schedule Based on Available Resources
- Resource Scheduling for Multiple Projects
- Prepare Project Target Cost Estimate
- Review, Enhance, Change and Approve Master Schedule
- Preparation of Project Bar Charts and Networks
- PERT/CPM Network Analysis and Methodology
- Analyzing and Refining the Critical Path, Lead/Lag Scheduling
- Develop the Performance Measurement Baseline (Schedule and Cost Baseline)
- Time / Cost Trade Off - Technique for minimizing (shortening or compression) Project Duration to Meet a Deadline Completion Date
- Acceleration of a Project Schedule
- **Project Time Management**
 - Define Activities
 - Sequence Activities
 - Estimate Activity Resources
 - Estimate Activity Durations
 - Develop Schedule

- Control Schedule
- **Project Cost Management**
 - Estimate Costs
 - Determine Budget
 - Control Costs
- **Project Risk Management**
 - Plan Risk Management
 - Identify Risks
 - Perform Qualitative Risk Analysis
 - Perform Quantitative Risk Analysis
 - Plan Risk Responses
 - Monitor and Control Risks
- **Project Procurement Management**
 - Plan Procurements
 - Conduct Procurements
 - Administer Procurements
 - Close Procurements

4. PROJECT MONITORING, TRACKING, AND CONTROL PHASE

- Developing an Effective Project Control System
- Establish Project Information Analysis and Reporting Requirements
- Analyzing the Performance Information
- Earned Value Concept (Progress vs. Planned vs. Actual Achievement)
- Cost and Schedule Integration and Key Performance Indicators (KPI's)
- Cost and Schedule Variance Analysis (CV,SV)
- Establish Variance Thresholds for Mandatory Reporting
- Determine Schedule Status
- Determine Cost Status
- Performance Measurement Key Indicators (SPI, CPI)
- Forecasting Time and Cost to Complete Projects, i.e., Estimate to Complete (ETC), Estimate At Completion (EAC), and Variance At Completion (VAC).
- Assess Technical Objective and Completion Status
- Analyze Short and Long Impact on Project
- Identify Possible Corrective Action(s) to be Taken
- Developing an Effective Construction Claims Management System
- **Use of Computers in Project Management**
 - Monitoring and forecasting the project performance
 - Scheduling and monitoring / control
 - Selection of PM Software Packages

5. PROJECT REPORTING SYSTEM AND REPORTS

- Structured Standard Reports
- Reporting Level, Frequency and Distribution
- Time (Schedule) Progress Reports
- Resource Usage Reports (Histograms)
- Budget Status Reports
- Project Status Reports
- Job Cost Control Reports
- Project *look ahead* Reports