



*Training Course:
Project Scheduling and Planning Skills I*

*5 - 9 May 2025
Cape Town (South Africa)
DoubleTree by Hilton Cape Town - Upper Eastside*

Training Course: Project Scheduling and Planning Skills I

Training Course code: PC4018 From: 5 - 9 May 2025 Venue: Cape Town (South Africa) - DoubleTree by Hilton Cape Town - Upper Eastside Training Course Fees: 5950 € Euro

Introduction

The late delivery of projects has become the scourge of project professionals worldwide. Countless numbers of projects undertaken by organizations in the private and public sectors significantly overrun the project schedule and budget, and as a consequence fail to achieve the organization's financial and strategic objectives, often with sizable increases in costs and with substantial financial losses to the organization. Why?

This is due mainly to the failure of many project professionals to successfully apply the tools and techniques of modern project planning, scheduling, and control to their projects.

In addition to the financial losses suffered by the organization, many such projects also fail to deliver the required quality of outcomes intended for the project as a direct consequence of inadequate planning and control.

Course Objectives of Project Scheduling and Planning Skills

The Primary Objectives of the Seminar are to help Delegates to:

- Gain knowledge of techniques used in resource planning and control.
- Understand the time-cost trade-offs.
- Identify risk sources and minimize their impact and learn how to sustain project momentum.
- Learn how to administer project documentation and reporting.
- Develop effective performance monitoring and control systems.

Course Process of Project Scheduling and Planning Skills

Delegates will develop advanced project management performance and control skills and knowledge through formal and interactive learning methods. The program includes team projects, applicable case studies, group discussion and critical analysis of video material based on actual large construction projects.

Additionally, the seminar does not assume prior knowledge of the topics covered in the course. New concepts and tools are introduced gradually to enable delegates to progress from the fundamental to the advanced concepts of project planning, scheduling, and control.

Course Benefits of Project Scheduling and Planning Skills

- This Fundamental Program takes the practice of project planning, scheduling and control to a new level to ensure maximum results
- The most recent developments in the field are included to provide fresh inputs to your project management efforts
- The course takes a practical rather than a theoretical approach so that new skills can be applied with immediate effect
- High-quality videos of substantial projects of different kinds are screened and discussed during the seminar
- Group activities and exercises will ensure mastery of the practical application of new skills learned

- The use of software programs to facilitate the incorporation of many advanced techniques are introduced
- Related project management fields such as risk are continuously incorporated to provide an integrated view of the total project management process
- Delegates will have excellent opportunities for interaction and discussion of best practices at their respective organizations
- This course will equip delegates with the skills and knowledge to significantly improve all levels of project control in the organization
- The program will be an important stepping stone in terms of personal career development in that it prepares delegates for the internationally recognized Project Management Professional PMP exam

This brand new course will significantly enhance the skills and knowledge of delegates and improve their ability to plan, schedule, estimate, and control projects. The material has been designed to enable delegates to apply all of the material with immediate effect at the office.

The course also includes the important concepts of a line of balance scheduling linear and velocity diagramming, two little-known but critical techniques for the scheduling and planning of repetitive work that is subject to frequent changes in production rates resulting from changing technical circumstances and natural conditions encountered during the course of the project.

Failure to employ these techniques for recurring work inevitably leads to serious under-estimating of project duration, resource requirements, and costs.

These techniques also enable the project manager to achieve the optimal balance in terms of resource requirements across the different skill-sets working on the project so as to minimize idle time or under-utilization of resources.

Course Results of Project Scheduling and Planning Skills

This 5-day seminar will provide you with a proven set of critical methods, processes, tools and techniques for the development a systematic and dynamic Project Plan and Schedule that will enable the team to:

- Integrate scope, time, resources and cost management into a dynamic, manageable plan
- Develop project network diagrams for CPM and advanced PERT calculations to identify schedule and cost risks
- Maintain continuous project performance and delivery control
- Accurately estimate and allocate project costs and resources
- Measure, forecast and control project performance by employing earned value techniques
- Compressor accelerate the schedule when required by adverse circumstances
- Manage and mitigate schedule, cost, scope, and resource risks associated with the project
- Develop line of balance schedules and velocity diagrams for repetitive or recurring work
- Benefit from the financial effects of the learning curve on recurring work
- Develop a project recovery plan for budget and schedule overruns
- Produce clear and concise project progress reports

Core Competencies of Project Scheduling and Planning Skills

- Ability to deliver projects on time and within budget.
- Proactive identification of what a project really requires.
- Understanding of what it takes to be a successful project manager.
- Skill and confidence to plan and control projects successfully and ability to sidestep the most common project management pitfalls and problems.

- Appreciation of the philosophy, framework, standards, and approaches to the delivery of the projects.
- Understanding and practicing effective project management techniques in successfully completing and handing over projects.

Course Outlines of Project Scheduling and Planning Skills

Day 1: Project Scope Planning and Definition Fundamentals

- Scope Planning
- Work Breakdown Structures WBS
- Work Packages
- Statement of Work SOW - Technical Baseline
- Scope Execution Plan
- Triple Constraints - Time Cost, Scope
- Project Quality Issues
- Project Risk Analysis
- Project Deliverables
- Resource Requirements

Project Schedule Planning and Critical Path Method

- Precedence Network Diagramming
- Job Logic Relationship Chart
- Critical Path Analysis
- Project Float Analysis
- Lead and Lag Scheduling
- Activity Duration Estimation
- Milestone Charts
- Gantt Chart - Schedule Baseline
- Project Estimating Processes
- Production and Productivity Planning
- Resource and Cost Allocation

Day 2: Resource Allocation and Resource Levelling

- Management of Resources
- Planning and Scheduling Limited Resources
- Resource Allocation Algorithms for Resource Prioritisation
- Solving Resource Contention
- Resource Levelling when Project Duration is Fixed
- The Brooks Method of Resource Allocation
- Increasing the Workforce
- Solving Interruptions to the Schedule
- Scheduling Overtime

Day 3: Accelerating the Project Schedule

- Circumstances Requiring Project Acceleration
- Time-Cost-Scope Trade-off
- Project Time Reduction
- Direct Project Costs
- Indirect Project Costs

- Options for Accelerating the Schedule
- Crashing the Schedule - How?
- Pre-Accelerated Schedule
- Developing a Crash Cost Table
- Acceleration in Practice
- The Optimal Acceleration Point
- Gantt Chart for Accelerated Schedule
- Network Activity Risk Profiles
- Additional Considerations
- Multiple Critical Paths
- Project Cost Reduction

Project Contingency Planning

- Program Evaluation and Review Technique PERT
- Path Convergence Analysis
- Solving the Path Convergence Problem
- Network Risk Profile Types
- Normal Distribution
- PERT, Probability and Standard Deviation Formulae
- Calculating the Standard Deviation
- Standard Deviation for Critical Path
 - Z-Values: The Probability of Project Completion at a Required Date
- True Critical Path
- Network Activity Risk Profiles
- Application: Estimating Project Duration

Day 4: Line of Balance Scheduling - The Planning of Recurring Activities

- Preparing a Line of Balance Schedule
- Velocity Diagrams and Linear Scheduling
- Velocity Diagram Production Rate Calculations
- Linear Sequence of Activities as a Series of Velocity Diagrams
- Balancing the Schedule
- Calculations for a Line of Balance Schedule
- Line of Balance Formulae
 - Target Units per Week
 - Determining Crew Size
 - Actual Rate of Output
 - Time to Complete One Activity
 - Elapsed Time for Recurring Activity
- The slope of Line from Activity Start to Activity Finish
- Balanced Project Schedule without Buffers Finish-Start
- Inserting Buffers
- Comparison of Unbalanced with Balanced Schedules
- Measuring Planned Progress on Schedule
- Velocity Diagram Reflecting Expected Conditions
- Actual Progress and Work Conditions
- Variable Conditions

Day 5: Project Execution Management, Control, and Reporting

- Progress Tracking and Monitoring
- Project Cost Management
- Earned Value Control Process
- Schedule Variances
- Cost Variances
- Progress Control Charts - Trend Analysis
- Schedule and Cost Variance Forecasting
- Labour Management and Cost Control
- Materials Management and Cost Control
- Earned Value Analysis
- Earned Value Reporting

Project Recovery Plan Development

- Project Variance Analysis and Quantification
- Schedule Performance Index SPI
- Cost Performance Index CPI
- Setting Schedule and Cost Control Limits
- Project Recovery Data Assessment
- Schedule and Cost Recovery Analysis
- Schedule and Cost Recovery Plan
- Project Recovery Baselines and Controls

Registration form on the Training Course: Project Scheduling and Planning Skills I

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