Introduction

The challenge of **late project delivery** has become a persistent issue globally, impacting both private and public sector projects. Many projects fail to meet their timelines and budgets, often leading to significant financial losses and failure to meet the organization’s strategic objectives. This issue typically arises from the inability of project professionals to effectively apply modern **project planning, scheduling, and control** tools.

This **Project Planning and Scheduling Professional Training** course is designed to address this gap by enhancing the knowledge and skills of project managers in the application of modern scheduling techniques, ensuring that projects are delivered on time, within budget, and with the desired quality outcomes. The course prepares participants to efficiently manage project timelines and resources, addressing the common pitfalls that lead to project delays and cost overruns.

Enhancing Project Management through Scheduling Skills

In project management, **scheduling skills** are crucial for ensuring that projects are delivered on time, within budget, and without compromising quality. This course is not only a step toward obtaining **Project Scheduler Certification** but also provides comprehensive training on **project planning and scheduling techniques**. Participants will gain practical experience in incorporating schedule planning into their projects, focusing on methodologies that ensure the effective coordination and execution of project activities.

By completing this course, participants will enhance their project planning and scheduling capabilities, ensuring smoother project execution and more reliable delivery timelines.

Targeted Groups

This training course is designed for:

- **Project Managers**
- **Cost Estimators**
- **Project Schedulers**
- **Project Designers**
- **Project Planners**
- **Senior Managers** interested in best practices in project management

The course is ideal for anyone involved in project planning, scheduling, and control in a project environment.

Course Objectives

Upon completing the course, participants will be able to:

- Master techniques for **resource planning** and **control**.
- Understand **time-cost trade-offs** and effectively manage them.
- Identify and mitigate **project risks** to maintain momentum.
- Administer **project documentation** and **reporting**.
- Develop and implement **performance monitoring systems**.
- Integrate **scope, time, resources, and cost management** into a unified plan.
- Use **CPM** and **PERT** to create project network diagrams and identify risks.
- Maintain continuous project performance and delivery control.
- Accurately estimate and allocate **costs and resources**.
- Apply **earned value techniques** to measure and control project performance.
- Manage and mitigate risks related to **schedule, cost, scope**, and **resources**.
- Develop **project recovery plans** for schedule and budget overruns.

Targeted Competencies

Participants will develop competencies in:

- Delivering projects on time and within budget.
- Proactively identifying and addressing project requirements.
- Understanding and managing the complexities of project schedules and costs.
- Applying effective project management techniques to ensure successful project delivery.
- Managing common pitfalls and challenges in project management.
- Developing a comprehensive understanding of **project scheduling**, **resource allocation**, and **risk management**.

Course Content

Unit 1: Project Scope Planning and Definition (Fundamentals)

- Scope planning and Work Breakdown Structures (WBS).
- Development of Statement of Work (SOW) and scope execution plan.
- Managing project deliverables and resource requirements.
- Addressing project quality issues and risk analysis.

Unit 2: Project Schedule Planning and Critical Path Method

- Precedence network diagramming and critical path analysis.
- Estimating activity duration and analyzing project float.
- Creating milestone charts and Gantt charts as schedule baselines.
- Project estimating and productivity planning.

Unit 3: Resource Allocation and Resource Levelling

- Planning and managing limited resources effectively.
- Using resource allocation algorithms to prioritize resources.
- Solving resource contention issues and leveling resources.
- Managing resource allocation through methods such as the **Brooks** method.

Unit 4: Accelerating The Project Schedule

- Identifying circumstances that require schedule acceleration.
- Time-cost-scope trade-offs and project time reduction strategies.
- Techniques for schedule crashing and developing crash cost tables.
- Balancing acceleration and risk considerations in project scheduling.

Unit 5: Project Contingency Planning

- Applying **PERT** to assess project risks and duration estimates.
- Calculating **standard deviation** and using Z-values for project completion probabilities.
- Conducting **path convergence analysis** and identifying network activity risk profiles.

Unit 6: Line of Balance Scheduling – The Planning of Recurring Activities

- Preparing and analyzing **line of balance schedules**.
- Using **velocity diagrams** and linear scheduling techniques.
- Calculating production rates and balancing the schedule.
- Measuring planned and actual progress, and adjusting for variable conditions.

Unit 7: Project Execution Management, Control, and Reporting

- Tracking project progress and managing project costs.
- Applying earned value analysis to monitor and control performance.
- Forecasting variances in schedule and cost.
- Using progress control charts for trend analysis and decision-making.

Unit 8: Project Recovery Plan Development

- Analyzing project variances and establishing recovery plans.
- Using **Schedule Performance Index (SPI)** and **Cost Performance Index (CPI)** for recovery analysis.
- Setting control limits and establishing baselines for schedule and cost recovery.
- Developing strategies for overcoming schedule and budget overruns.

This comprehensive course will provide participants with the essential skills needed to effectively plan, schedule, and control projects, ensuring successful project outcomes within time and budget constraints.