Critical Path Method (CPM) Essentials Training Course

Professional Development Training Course Outline

Category	Project Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Critical Path Method (CPM) Essentials Training Course provides professionals with practical and analytical skills to plan, schedule, monitor, and control projects using structured network-based scheduling techniques. CPM is a core project management tool used across construction, engineering, infrastructure, IT, manufacturing, and public-sector projects to optimize timelines, manage dependencies, and allocate resources effectively. This course emphasizes logical sequencing, activity duration estimation, float analysis, and schedule optimization to ensure projects are delivered on time and within scope.

Participants will gain hands-on experience in building CPM networks, identifying critical and non-critical activities, and using schedules as decision-support tools for performance tracking and risk management. The training integrates real-world scenarios, project simulations, and case studies to strengthen participants' ability to manage delays, accelerate schedules, and communicate project timelines to stakeholders. By the end of the course, learners will confidently apply CPM techniques to improve predictability, accountability, and overall project success.

Programme Curriculum

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Course Objectives

1. Understand the principles and structure of the Critical Path Method.
2. Apply CPM techniques for effective project scheduling and control.
3. Identify logical dependencies and activity sequencing in projects.
4. Estimate activity durations using proven planning techniques.
5. Construct project network diagrams using CPM logic.
6. Calculate early start, late start, and float values accurately.
7. Identify critical and near-critical paths in complex projects.
8. Analyze schedule risks and potential project delays.
9. Apply schedule compression techniques such as crashing and fast-tracking.
10. Use CPM outputs for progress monitoring and reporting.
11. Integrate CPM with project risk and resource management.
12. Improve stakeholder communication using schedule visualizations.
13. Apply CPM best practices across different project environments.

Organizational Benefits

- Improved project completion timelines and predictability
- Enhanced planning accuracy and logical scheduling
- Reduced project delays and cost overruns
- Better identification and management of schedule risks
- Improved coordination among project teams
- Stronger decision-making using data-driven schedules
- Enhanced transparency and accountability in project delivery
- Improved resource utilization and workload balancing
- Increased stakeholder confidence and communication clarity
- Standardized project scheduling practices across the organization

Target Audiences

- Project managers and project coordinators
- Planning and scheduling engineers
- Construction and engineering professionals
- Operations and production managers
- Program and portfolio managers
- Consultants and project advisors
- Public sector and infrastructure managers
- Graduate engineers and project management professionals

Course Duration: 5 days

Course Modules

Module 1: Fundamentals of Critical Path Method

- Overview of project scheduling concepts and terminology
- History and importance of CPM in project management
- Comparison of CPM with other scheduling techniques
- Understanding activities, events, and milestones
- Role of CPM in project lifecycle management
- Case Study: Applying CPM in a small infrastructure project

Module 2: Activity Definition and Sequencing

- Breaking down projects using work breakdown structures
- Identifying activities and task dependencies
- Types of logical relationships in CPM networks
- Use of precedence diagramming method
- Avoiding common sequencing errors
- Case Study: Sequencing activities for a construction project

Module 3: Estimating Activity Durations

- Techniques for accurate duration estimation
- Use of historical data and expert judgment
- Managing uncertainty in time estimates
- Linking durations to productivity assumptions
- Validating estimates for schedule realism
- Case Study: Duration estimation challenges in an IT project

Module 4: Network Diagram Development

- Constructing CPM network diagrams step by step
- Forward pass and backward pass calculations
- Identifying early and late activity dates
- Calculating total and free float
- Interpreting network logic visually
- Case Study: Developing a CPM network for a manufacturing project

Module 5: Critical Path Analysis

- Identifying critical and non-critical paths
- Understanding float consumption and sensitivity
- Managing near-critical paths proactively
- Implications of critical path changes
- Monitoring critical activities during execution
- Case Study: Critical path shifts during project execution

Module 6: Schedule Optimization Techniques

- Schedule crashing principles and cost-time trade-offs
- Fast-tracking strategies and associated risks
- Evaluating schedule acceleration options
- Managing resource impacts of schedule changes
- Maintaining quality under compressed schedules
- Case Study: Accelerating a delayed project using CPM

Module 7: Monitoring, Control, and Reporting

- Updating schedules with actual progress data
- Measuring schedule performance and variance
- Using CPM for forecasting completion dates
- Communicating schedule status to stakeholders
- Integrating CPM with earned value analysis
- Case Study: Schedule recovery planning using CPM reports

Module 8: CPM Tools, Best Practices, and Applications

- Overview of CPM software tools and features
- Common CPM implementation challenges
- Best practices for maintaining realistic schedules
- Using CPM across different industries
- Lessons learned and continuous improvement
- Case Study: CPM implementation success in a large-scale project

Training Methodology

- Instructor-led presentations and conceptual explanations
- Step-by-step guided scheduling exercises
- Group discussions and collaborative planning activities
- Hands-on practice with CPM calculations and networks
- Real-life project case study analysis
- Review sessions and practical application workshops

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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