

1day

## Critical Path Analysis

### Course Outline

August 2017

<b>Objective</b>	1. To provide participants with the knowledge and skills required to competently apply the principles of Critical Path Analysis.
<b>Benefits</b>	2. Improve shutdown and project planning skills.
<b>Who Should Attend</b>	3. Managers, Planners, Supervisors, and Team Leaders who participate in the development of shutdown plans or projects.
<b>Course</b>	4. On the completion of this course you will be able to: <ul style="list-style-type: none"><li>• Define critical path as applicable to project type activities</li><li>• Apply critical path analysis to shutdown schedules</li><li>• Manipulate activities to achieve critical path determinants</li><li>• Develop appropriate metrics to monitor critical path/s</li></ul>

## 1. WELCOME AND INTRODUCTION

Welcome and introductions  
Course overview  
Icebreaker  
Course objectives  
Basic Glossary of Terms – Project Management

## 2. CRITICAL PATH METHOD (CPM)

Introduction  
Shutdown Management Risk Survey  
Program Evaluation Review Technique (PERT)  
The Network Diagram

## 3. DEVELOPING A BASIC PERT CHART

STEP 1 – Identify The Specific Activities  
STEP 2 – Determine Activity Sequence  
STEP 3 – Construct The Network Diagram  
STEP 4 – Estimate Activity Times  
STEP 5 – Determine The Critical Path  
STEP 6 – Update As Project Progresses  
STEP 7 – PERT Limitations & Advantages

## 4. PROJECT PROBABILITY AND CRASHING

Calculation of Probability of Meeting Project Completion

## 5. PROJECT CRASHING – TIME/COST OPTIMISATION

Activity Time/Cost Data  
Total Project Costs  
Rules For Project Crashing  
The Crashing Process  
Notes About Float or Slack  
Crash Example

## 6. ACTIVITY ON NODE NETWORKS OR RPS

RPS Symbols  
Activity Boxes  
Activities in Series  
Use of Distributors  
Use of Collectors  
Distributors and Collectors in Series  
RPS Logic Conventions  
RPS Graphical Conventions  
Steps Involved in Plotting and RPS  
Network Diagram  
Time Analysis  
Critical Path