

Practical Project Scheduling

Easy CPM 2-Day Workshop

Day 1

Session 1: Design and Structure your Schedule

Introductions, overview, and house keeping

The need for planning and scheduling

- a) Purpose = communication not control
- b) Understand audience

Simple -v- complex projects

Planning -v- scheduling

The project scheduler

Planning the planning

Planning the schedule management

- a) Scheduling Heuristics & Templates
- b) Optimum update cycle

PDM Network building blocks Basic framework of a schedule

- a) Activities & Milestones
 - i. Milestones
 - ii. Attributes of an activity
 - iii. Durations
- b) Logic Links
- c) Rules of logic
- d) Building the project 'Road Map'

Exercise #1 – Construct Schedule.

Session 2: Major Project Schedules

Understanding the Project

- a) Project scope & Objectives

Project Planning

- a) Strategy and methods

Schedule Design

- a) Optimum update cycle
- b) Rolling Wave planning and Schedule Density
- c) Gateways and phasing / project life cycle
- d) Schedule Levels



- e) Managing multiple schedules

Project Breakdown Structures

- a) OBS, CBS, RBS, etc

Work Breakdown Structures

- b) Terminology
- c) Work packages
- d) Planning packages
- e) WBS Dictionary

Exercise #2 – Develop a Work Breakdown Structure.

Session 3: Schedule Analysis

Time Analysis

- a) Integers -v- elapsed time
- b) Forward Pass
- c) Back Pass

Exercise #3 – Analyse Schedule.

Free Float, Total Float & the Critical Path

- a) Defining the Critical Path
- b) Float calculations and definitions
- c) Using float wisely

Exercise #4 – Scheduling Puzzle (crossing the bridge).

Calculating Durations

- a) Options: Analogous -v- Parametric
- b) Problems with production rates
- c) Problems with effort driven durations

Network logic and duration issues

- a) Link types
 - i. FS/SS/FF/SF
 - ii. Mandatory/discretionary/external
- b) Leads and Lags
- c) Links can cause problems

Session 4: Scheduling History, Uncertainty & Risk Management

History of scheduling

- a) Barcharts, Milestone Charts and Flowline
- b) ADM / PDM / PERT

Confidence levels



Risk & Uncertainty

PERT

- a) PERT Analysis
- b) PERT Merge Bias

Exercise #5 – PERT Calculations.

Monte Carlo Analysis

- a) Monte Carlo Analysis
- b) Normal, Beta and Triangular distributions
- c) Loops and Conditional Branches

Risk management

Probability and contingency

- a) Normal variability
- b) Risk Events (contingencies)
- c) Management reserves (Unknown unknowns)

Day 2

Session 5: Resource Analysis and Costs

Calendars

Constraints

Resources

- a) People and equipment
- b) Materials and consumables
- c) Money and work space

Resource Analysis

- a) Availability / calendars / limitations
- b) Allocation Per day (time based) or Total (distributed or flexible)

Resource levelling options

- a) Aggregation
- b) Smoothing
- c) Levelling

Resource problems

- a) Resource schedule
 - i. No float – balanced by resource allocation
 - ii. Critical resources & resource float
- b) Productivity

- i. Multi-tasking

Exercise #6 – Resource level Schedule.

Cost Management & Cash flow analysis

- a) Developing the baseline budget
- b) Types of cash flow
- c) The Funding gap

Session 6: Scheduling Tools Techniques & Emerging Methods

Software tools

- a) EPM focus
- b) Project focus
- c) Presentation focused GUI's

Line of Balance & Chainage Charts

Exercise #7 – Develop a LOB Chart.

Multi-Activity Charts

Emerging ideas

- a) BIM
- b) EVM
- c) Agile
- d) Complexity Theory

The schedule as a motivator

- a) Motivation
- b) Critical Chain / Viper
- c) Gaining commitment
- d) The psychology behind the process

Session 7: Updating the Schedule & Reporting

Schedule review and validation

Contract programs (old and new views)

Schedule baselines

Maintaining schedule relevance

Statusing the schedule - Gathering and recording actuals

- a) Who to ask
- b) Data to collect
 - i. Start and Finish dates
 - ii. Time to finish and % work complete
 - iii. Resources used and Costs incurred

- c) Statusing and editing for accuracy

Updating the schedule

- a) Review status
- b) Management action to
 - i. Lock in gains
 - ii. Mitigate losses

Exercise #8 – Update the Schedule.

Dealing with ‘Bad News’

Schedule compression

- a) What-If Scenarios
- b) Fast tracking
- c) Crashing (Mythical Man Month)

Record keeping and progress information

- a) Data management
- b) Version control
- c) Change management
- d) Photo diaries & records

Reporting options and communication

- a) Focusing the information
- b) Coding structures
- c) Standardising report formats

Types of Report

- a) Management Reports – Milestone and Dashboards
- b) Team reports – Bar charts
- c) Variance and trend reports

Managing for Success

Session 8: Managing Scheduling & Allied Processes

Scheduling Guides and Standards

The role of a PMO

- a) Types of PMO
- b) Roles and responsibilities

Schedule quality assessments

- a) Schedule assessment tools
- b) Practical considerations
- c) Logical inconsistencies (links cause problems)
- d) Feedback & Benchmarking

Dispute management

- a) The Delay and disruption Protocol
- b) Delay analysis options

Exercise #9 The Value of Teamwork

Earned Value Management

- a) Earned Value concepts
- b) WBS / OBS / Control Accounts / Work Packages

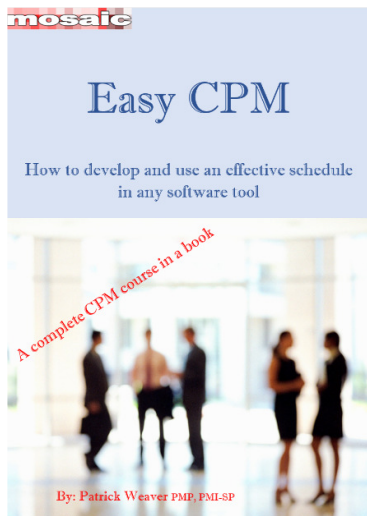
Earned Schedule

Summary & Course wrap Up.

Course inclusions

Each trainee will receive a free copy of:

Easy CPM - How to develop and use an effective schedule in any software tool



Easy CPM is a self-paced course-in-a-book, supported by Mosaic Project Services Pty Ltd. The purpose of this 'course-in-a-book' is to provide practical guidance to people involved in developing, or using schedules based on the Critical Path Method (CPM). The book is designed to act as a reference and practice guide to enhance the effectiveness of their scheduling practice after they have learned to use the CPM scheduling software of their choice.

The book is divided into six sections, each section includes guidance on an aspect of CPM scheduling, references, and a set of 20 questions; with the answers in Section 7. Section 8 incorporates the appendix.

Open the Book2Look preview to see the full table of contents, sample pages, and sample questions & answers. The free preview is available at: <https://www.book2look.com/book/kjAKgHcnf>

For more information see: <https://mosaicprojects.com.au/shop-easy-cpm.php>

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