

EASTWOOD HARRIS PTY LTD.

**Welcome to the
Eastwood Harris Pty Ltd
Microsoft Project
training course
presented by
Paul E Harris**

PMI REP No 3001 – Course Number MSP

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Administration

- Evacuation
- Timings, meals and facilities
- Mobile phones and emails
- Introductions
 - Your name
 - Your position or job
 - Experience in scheduling software
 - What you expect from the course
- Course attendance sheet.

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Course Agenda

Day 1 Modules

- 1 Introduction
- 2 Creating a Project Plan
- 3 Creating Projects and Setting Up the Software
- 4 Navigating Around the Screen
- 5 Defining Calendars
- 6 Adding Tasks
- 7 Organizing Tasks Using Outlining
- 8 Formatting the Display
- 9 Adding Task Dependencies
- 10 Network Diagram View
- 11 Constraints

Day 2 Modules

- 12 Filters
- 13 Tables, Grouping Tasks, Outline Codes and WBS
- 14 Views and Details 15 Printing and Reports
- 16 Tracking Progress
- 17 Options
- 18 Creating Resources
- 19 Assigning Resources and Costs To Tasks
- 20 Resource Histograms, Tables, S-Curves & Leveling
- 21 Statusing Projects With Resources
- 22 Tools and Techniques For Scheduling

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Module 1 – Introduction

Topics:

- Purpose of the Course
- Required Background Knowledge
- Purpose and of Planning
- Project Planning Metrics
- Planning Cycle
- Levels of Planning
- Monitoring and Controlling a Project.

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Purpose of the course

- Provide a method for planning, scheduling and controlling projects using Microsoft Project,
- Up to an intermediate level.

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Required Background Knowledge

- The ability to use a personal computer and understand the fundamentals of the operating system,
- Experience using application software such as Microsoft Office, and
- An understanding of how projects are managed.

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Creating Projects

To create the project in Microsoft Project, you will require the following information:

- Project Name
- The Project Start Date (and perhaps the Finish Date)
- It would be helpful to know other important information such as:
 - Client name, and
 - Other project data such as location, project number and stakeholders.

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Defining the Calendars

- The finish date and time of a task is calculated from the start date and time plus the task duration over the calendar assigned to the task.

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Defining a WBS and Adding Tasks

- A WBS may be defined as a hierarchical breakdown of all the project deliverables or products,
- The principal method of assigning a WBS to a project with Microsoft Project is using a function entitled **Outlining**, which creates a hierarchy of summary tasks:

Task Name	Duration	Start	Finish
1 Project Summary Task	57 days	2 Apr	19 Jun
2 Start Milestone	0 days	2 Apr	2 Apr
3 Finish Milestone	0 days	19 Jun	19 Jun
4 WBS Node 1	20 days	2 Apr	27 Apr
5 Task 1	5 days	2 Apr	6 Apr
6 Task 2	8 days	9 Apr	16 Apr
7 Task 3	7 days	19 Apr	27 Apr
8 WBS Node 2	30 days	19 Apr	30 May
9 Task 4	3 days	19 Apr	23 Apr
10 Task 5	19 days	30 Apr	24 May
11 Task 6	4 days	25 May	30 May
12 WBS Node 3	41 days	24 Apr	19 Jun
13 Task 7	4 days	24 Apr	27 Apr
14 Task 8	6 days	31 May	7 Jun
15 Task 9	8 days	8 Jun	19 Jun

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Summarizing a Schedule

- The project schedule may be rolled up using these summary tasks:

Task Name	Duration	Start	Finish
1 Project Summary Task	57 days	2 Apr	19 Jun
2 Start Milestone	0 days	2 Apr	2 Apr
3 Finish Milestone	0 days	19 Jun	19 Jun
4 WBS Node 1	20 days	2 Apr	27 Apr
8 WBS Node 2	30 days	19 Apr	30 May
12 WBS Node 3	41 days	24 Apr	19 Jun

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Adding the Logic

There are several types of dependencies that may be used when planning a project:

- Mandatory dependencies**, also known as **Hard Logic**, are relationships between tasks that may not be broken,
- Discretionary dependencies**, also known as **Sequencing Logic** or **Soft Logic**, are relationships between tasks that may be changed when the plan is changed,
- External dependencies** are usually events outside the control of the project team that impact the schedule.

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Leads and Lags

- The software will calculate the start and finish dates for each task.
- The end date of the project is calculated from the start date of the project, the logic amongst the tasks, any **Leads** (often referred to as **Negative Lag**) or **Lags** applied to the logic and durations of the tasks.

Task Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Predecessor	[Bar from 1 to 8]														
2 Successor with 3 day Lag	[Bar from 11 to 14]														
3	[Bar from 11 to 14]														
4 Predecessor	[Bar from 1 to 8]														
5 Successor with 3 day Lead	[Bar from 1 to 11]														

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Level 3 – Scheduling With Resources and Costs

- Are you estimating or planning for control?
- Consider the balance between the number of Tasks and Resources
- Creating and using Resources
- Creating and using Expenses
- Task Type and Effort Driven option
- Resource Optimization.

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Level 4 – Monitoring Progress of a Resourced Schedule

- A decision needs to be made if the actual units and costs are to be collected and entered into the software or the software is to calculate these and then the appropriate options selected,
- Stating Projects with Resources records,
 - The quantities and/or costs spent to-date per task for each resource, and
 - The quantities and/or costs required per resource to complete each task,
- At this point in time it is possible to undertake a great deal of analysis and often Earned Value Performance Measurement is used.

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Now lets get our hand dirty!

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Module 3 – Creating Projects and Setting up the Software

Topics:

- File Types
- Starting Microsoft Project
- Creating a Blank Project
- Opening an Existing Project
- Creating a New Project from a Template
- Creating a Project Template
- Saving Additional Project Information
- Workshop 1 - Creating Our Project

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Microsoft Project File Types

Microsoft Project propriety file formats :

- **Microsoft Project 98 (*.mpp)**. This is the format created by Microsoft Project 98. MSP98 will not open mpp versions created by later software versions.
- Microsoft Project 2000, 2002 and 2003 will open and save to a **Microsoft Project 98 (*.mpp)** file but not to a 2007 version.
- Microsoft Project 2007 will save to 2000 – 2003 versions, but will not save to a **Microsoft Project 98 (*.mpp)** file.
- Microsoft Project 2010 will save to 2007 and to 2000 – 2003 versions, but will not save to a **Microsoft Project 98 (*.mpp)** file.
- **MPX (*.mpx)**. This is a text format data file created by Microsoft Project 98 and earlier versions of Microsoft Project. This format may be opened by Microsoft Project 2000 – 2003 and 2007 but cannot be created by Microsoft Project 2000, 2002, 2003 and 2007. mpx is a format that may be imported and exported by many other project scheduling software packages.
- **Template (*.mpt)**. This format is used for creating project templates.
- **Project Database (*.mpd)**. This is a Microsoft Project database format that may be used for exporting data and is intended to replace the mpx format in Microsoft Project 2000 – 2003, but is not available in Microsoft Project 2007.
- **Microsoft Access Database (*.mdb)**. This is the Microsoft Access format in Microsoft Project 2000 – 2003 that is not available in Microsoft Project 2007.
- **XML format (*.xml)**. Introduced in Microsoft Project 2002, this enables files to be saved in XML (extended Markup Language) format allowing data to be shared with other applications. This is becoming a more popular format for other software packages to import and export data.

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Creating Projects and Setting up the Software

- **The instructor will demonstrate the software functions.**

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Module 9 – Adding Task Dependencies

Topics:

- Understanding Dependencies
- Understanding Lags and Leads
- Restrictions on Summary Task Dependencies
- Displaying the Dependencies on the Gantt Chart
- Scheduling the Project
- Task Drivers
- Workshop 7 – Adding Relationships.

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What is Network Logic

- The next phase of a schedule is to add logic to the tasks
- There are two types of logic:
 - Relationships (Dependencies or Logic or Links between tasks), and
 - Imposed Constraints to task start or finish dates. These are covered in the Constraints chapter,
- Microsoft Project's Help file and other text uses the terms "**Dependencies, Relationships and Links**" for Dependencies but does not use the term "**Logic.**"

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Understanding Dependencies

- Two other terms you must understand are:
 - Predecessor**, a task that controls the start or finish of another immediate subsequent task.
 - Successor**, a task whose start or finish depends on the start or finish of another immediately preceding task.
- There are four types of dependencies available in Microsoft Project:
 - Finish-to-Start (**FS**) (also known as conventional)
 - Start-to-Start (**SS**)
 - Start-to-Finish (**SF**)
 - Finish-to-Finish (**FF**).

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What is Closed Network

- To create a **Closed Network** each task will require a Start predecessor and a Finish successor.

Open Network

No delay to Finish Milestone

Closed Network

Delay to Finish Milestone

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Relationship Types

The **FS** (or conventional) dependency looks like this:

While the **SS** dependency is like this:

The **FF** dependency looks like:

The **SF** dependency would be:

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Leads and Lags

- A successor task will start or finish later when a positive Lag is assigned. Therefore, a task requiring a 3-day delay between the finish of one task and start of another will require a positive lag of 3 days.
- Conversely, a lag may be negative (also called a Lead) when a new task can be started before the predecessor task is finished.
- Leads and Lags may be applied to any relationship type including Summary Task relationships.

An example of a **FS** with positive lag

An example of a **FS** with negative lag:


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Tables, Grouping Tasks, Outline Codes and WBS

- The instructor will demonstrate the software functions.

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Module 14 Views and Details

- Understanding Views
- Applying a View
- Creating a New View
- Details Form
- A Logical Process for Developing a View
- Workshop 12 - Organizing Your Data Using Views and Tables

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Understanding Views

- A **View** is a function where the formatting such as the **Table**, **Details** and **Bar** formatting are saved and reapplied later.
- A filter is saved as part of a **View**.
- In a project a **View** could be created for each type of report and for displaying contract package plan or a Phase Plan activities.
- It is highly recommended that a View be produced for each frequently-created report.

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Views and Details

- The instructor will demonstrate the software functions.

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Module 15 – Printing and Reports

Topics:

- Printing
- Print Preview
- Page Set-up
- Print Form and Manual Page Breaks
- Reports
- Workshop 12 - Printing

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Printing and Reports

- The instructor will demonstrate the software functions.

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Module 20 – Resource Histograms, Tables, S-Curves & Leveling

Topics:

- Resource Graph Form
- Resource Graph View
- Resource Tables View
- Detailed Styles Form
- Creating an S-Curve from Microsoft Project
- Printing Resource Profiles and Tables
- Creating Table, S-Curves and Histograms in a Spreadsheet
- Resolving Resource Overloading
- Resource Leveling Function
- Workshop 17 – Histograms and Tables

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Resource Histograms, Tables, S-Curves & Leveling

- The instructor will demonstrate the software functions.

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Module 21 – Statusing Projects with Resources

Topics:

- Understanding Baseline Dates, Duration, Costs and Hours
- Understanding the Data Date
- Formatting the Current Date and Status Date Lines
- Information Required to Update a Resourced Schedule
- Updating Dates and Percentage Complete
- Entering a % Complete Against Summary Tasks
- Updating Resources
- Splitting Tasks
- Summary Task Interim Baseline Calculation
- Summary Tasks and Earned Value
- Workshop 18 - Updating a Resourced Schedule.

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Statusing a Resourced Schedule

- It is often considered best practice to update a project between 10 and 20 times in its lifecycle. Some companies update schedules to correspond with accounting periods, which are normally every month. This frequency is often too long for projects that are less than a year in duration, as too much change may happen in one month. Therefore, more frequent updating may identify problems earlier,
- Statusing a project with resources employs a number of preferences and options, which are very interactive and will require a significant amount of practice by a user to understand and master them,
- It must be decided if the software will calculate the Actual costs and units from the percentage complete or if this data is to be collected and entered into the software.

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Preparing to Status a Resourced Schedule

After this course and before working on a live project, inexperienced users should gain confidence with the software by:

- Creating a new project and setting the **Options** to reflect the method you wish to enter information and how you want Microsoft Project to calculate the project data,
- Creating two or three tasks and then assigning two or three resources to each task,
- Update the Tasks and Resources as if you were updating a schedule and observe the results,
- Alter the preferences and defaults if you are not receiving the result you require. Re-update and note the preferences and defaults for future reference.

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Statusing a Resourced Schedule

Statusing a project with resources takes place in two distinct steps:

1. The dates, durations and relationships are statused using the methods outlined in the **Tracking Progress** chapter, and
2. The Resource, Expenses Units (hours and quantities) and Costs, both the Actual to Date and To Complete, are then updated. These values may be automatically updated by Microsoft Project from the % Complete or imported from accounting and timesheet systems or updated by the Microsoft Project Timesheet system.


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Statusing a Resourced Schedule

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Module 22 – Tools and Techniques for Scheduling

Topics:

- Understanding Menu Options
- Cut, Copy and Paste Row
- Cut, Copy and Paste Cell
- Copy Picture
- Fill
- Clear
- Find and Replace
- Go To
- Insert Recurring Task
- Splitting a Task
- Copy or Cut-and-Paste to and from Spreadsheets
- Paste Link – Cell Values in Columns
- Unique Task, Resource and Assignment ID
- Organizer

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Tools and Techniques for Scheduling

- The instructor will demonstrate the software functions.

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Review Expectations

- Complete Feedback Sheet
- Have we met your expectations?

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Thank you for attending

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