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Welcome to the
**Eastwood Harris Pty Ltd
Microsoft Project 2013**
training course
presented by
Paul E Harris




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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 Objectives

This course objectives are teach participants:

- The user interface and how to create projects,
- Scheduling projects without resources,
- Filters, Layouts, Grouping and Printing,
- Baselines and updating an un-resourced project,
- Creating and assigning resources,
- Controlling projects with resources and costs,
- Tools and utilities,

Successful completion of all the course workshops will confirm that the objectives have been met.




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Course Agenda

Day 1 Modules

- 1 Introduction
- 2 Creating a Project Schedule
- 3 Navigating and Setting the Options
- 4 Creating Projects and Templates
- 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.




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Course Agenda

Day 2 Modules

- 12 Filters
- 13 Tables and Grouping Tasks
- 14 Views and Details
- 15 Printing and Reports
- 16 Tracking Progress
- 17 Creating Resources and Costs
- 18 Assigning Resources and Costs to Tasks
- 19 Resource Optimization
- 20 Updating Projects with Resources.




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Module 1 – Introduction

Topics:

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



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1.1 - Purpose of the course

- Provide a method for planning, scheduling and controlling projects,
- Using Microsoft Office Project Professional 2010 or Microsoft Office Project Standard 2010,
- In a single project environment,
- Up to an intermediate level.

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1.2 - 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, such as the processes that take place over the lifetime of a project.

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1.3 - Purpose of Planning

- The ultimate purpose of planning is to build a model that allows you to predict which activities and resources are critical to the timely completion of the project,
- Strategies may then be implemented to ensure that these activities and resources are managed properly, thus ensuring that the project will be delivered both **On Time** and **Within Budget**.

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Planning aims to:

- Identify the total scope,
- Plan to deliver the scope,
- Evaluate different project delivery methods,
- Identify the deliverables under a logical breakdown of the project,
- Identify and optimize the use of resources,
- Evaluate if target dates may be met,
- Identify risks and plan to minimize them,
- Provide a baseline plan,
- Assist in stakeholders' communication,
- Assist management to think ahead and make informed decisions.

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Planning helps to avoid or assist in evaluating:

- Increased project costs or reduction in scope and/or quality,
- Additional change over and/or operation costs,
- Extensions of time claims,
- Loss of your client's revenue,
- Contractual disputes and associated resolution costs,
- The loss of reputation of those involved in a project, and
- Loss of a facility or asset in the event of a total project failure.

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1.4 - Project Planning Metrics

- A change in any one of these components normally results in a change in one or more of the others.

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3.1 Starting Microsoft Project Professional and Standard (cont)

- Once a new project has been created there are more options available from the **File** menu:

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3.2 - Identify the Parts of the Project Screen

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3.3 - Customizing the Screen

- The toolbars will not be covered in detail in this course as they operate the same way as all other Microsoft products,
- The Ribbon Toolbar has **Tabs** along the top and **Ribbon Groups**, which are groups of **Command Buttons**, below the Ribbon Tabs,
- Significant productivity improvements may be made by:
 - Moving the Quick Access Toolbar below the Ribbon Toolbar,
 - Ensuring that frequently used functions are made available on the Quick Access Toolbar,
 - Minimize the Ribbon which hides the Ribbon Toolbar until required.
- NOTE:** You may download and import the Eastwood Harris Quick Access Toolbar to save formatting time.

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3.4 - Microsoft Project 2013 Windows

- Multiple **Windows** may be created for each project,
- The **View, Window** group commands manage multiple windows,
- The picture below shows three views of the same project opened at the same time, with the Gantt Chart view on the left being split:

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3.5 - Status Bar

- The **Status Bar**, located at the bottom of the screen, may be formatted by right-clicking on it,
- It is recommended that you do not display the **Zoom Slider** as this function does not result in good timescale increments:

Option	Status
Cell Mode	Ready
Calculation	Off
Macro Recording	Not Recording
Filter	
AutoFilter	
Roll Up	
Prevent Overallocations	
New Task Mode Notification	
New Tasks	Manually Scheduled
View Shortcuts	
Zoom Slider	

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3.6 - Forms Available from the Ribbon Groups

- Some Ribbon groups have a little arrow in the bottom right-hand corner of the Group box. Clicking on the arrow will open up a form:

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6.3 - Understanding Change Highlight

- New tasks may have Start and/or Finish dates highlighted,
- This is due to **Change Highlighting** that highlights any changed dates and durations as a result of an edit, addition or deletion of another task,
- Remove the highlighting produced by the last change by:
 - Pressing the **F9** key which will also recalculate the project, or
 - Saving the project, or
 - Entering a value into a changed cell twice,
- You should add the **Display Change Highlighting** button to the **Quick Access Toolbar** to hide/display the highlighting.

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6.4 - Copying and Pasting Tasks

- Tasks may also be copied from another project or copied from within the same project using the normal Windows commands such as **right-click Copy** and **Paste** or **Ctrl+C** and **Ctrl+V**,
- Tasks are always inserted when pasted,
- **Note:** Copy and Pasting Cells will always paste over existing data.

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6.5 Copying Tasks from Other Programs

- Tasks may be copied and pasted to and from programs like Excel,
- This process may be used to either create or update programs.

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6.6 - Milestones

- A Milestone normally has a zero duration and is used to mark the start or finish of a major event,
- A Milestone is a Start Milestone when it has no predecessors and is scheduled at the start of a work day,

Task Name	Duration	Start	Finish
Start Milestone	0 days	1 Sep 08:00	1 Sep 08:00
Task	5 days	1 Sep 08:00	5 Sep 17:00
Finish Milestone	0 days	5 Sep 17:00	5 Sep 17:00
Task	5 days	8 Sep 08:00	12 Sep 17:00
Finish Milestone	0 days	12 Sep 17:00	12 Sep 17:00

- A Finish Milestone when it has predecessors and is scheduled at the end of a work day,
- To create a Milestone either:
 - Assign a task a zero duration, or
 - Click on the **Task, Insert** group, **Insert Milestone** button.

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6.7 - Reordering Tasks by Dragging

- Dragging Tasks to reorder them will permanently renumber tasks.

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6.8 - Reordering Tasks by Sorting

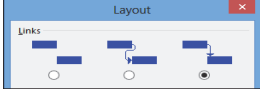
- Sorting Tasks will not renumber tasks, 
- They may be resorted into a different order, or
- Resorted into the original order.

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9.4 – Assigning Dependencies

- The dependencies may be displayed or hidden with the **Layout** form,
- Select **Format, Format** group, **Layout** to open the **Layout** form and click on the radio button under the style you require,



- The color of the dependency line is inherited from the color of the predecessor task,
- To display a Critical Path on the relationship lines you will need to format the bars as critical.

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Assigning Dependencies

There are many methods of assigning dependencies and we will demonstrate the following:

- Graphically Adding a Dependency
- Using the Link and Unlink Buttons
- Task Linking Using the Keyboard
- Adding and Deleting Predecessors with the Task Information Form
- Predecessor and Successor Details Forms
- Editing or Deleting Dependencies Using the Task Dependency Form
- Autolink New Inserted Tasks or Moved Tasks
- Editing Relationships Using the Predecessor or Successor Columns.

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9.5 - Scheduling the Project

Once you have your tasks and logic in place, Microsoft Project calculates the tasks' dates/times,

- More specifically, Microsoft Project has **Scheduled** the project to calculate the **Early Dates, Late Dates, Float** and the **Critical Path** of the project,
- To prevent the **Automatic Calculation** of your project's start/end dates select **File, Options, Schedule** tab, **Calculation**, click on **Off**,
- To calculate the schedule with the calculation mode set to manual:
 - Press the **F9 Key**, or
 - Click on the **Select All** button, top left-hand corner of the Gantt Chart view, right-click to open a menu and select **Calculate Project**, or
 - Add a **Schedule Project** button to the **Ribbon** or **Quick Access Toolbar**.

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Module 9 – Adding Task Dependencies - Summary

Topics:

- Understanding Dependencies
- Understanding Lags and Leads
- Restrictions on Summary Task Dependencies
- Assigning Task Dependencies
- Scheduling the Project
- Workshop 7- Adding the Relationships.

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9.6 Workshop 7- Adding the Relationships

- You have determined the logical sequence of tasks, so you may now enter the relationships.

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Module 10 – Network Diagram View

Topics:

- Understanding the Network Diagram View
- Adding and Deleting Tasks in the Network Diagramming View
- Adding, Editing and Deleting Dependencies
- Formatting the Task Boxes
- Formatting Individual Boxes
- Formatting the Display and Relationship Lines
- Early Date, Late Date and Float/Slack Calculations
- Workshop 8 – Schedule Calculations.

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13.5 Workshop 11 - Reorganizing the Schedule

- We want to issue reports for comment by management,
- We will group the tasks by their float value and show the WBS columns,
- We will also look at the Outline Codes and then Group the Tasks by the people responsible for the work, which we will enter into a text column.

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Module 14 - Views & Details

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

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Applying an Existing View

- All Views, except the **Timescale** view which is normally displayed above the Gantt Chart, may be applied by:
 - Clicking the appropriate button from the **Ribbon View, Task Views** and **Resource Views** groups,
 - Clicking on the down arrow by a View Name on **View, Task Views** and **Resource Views**,
- There are more views available than the Views listed on the **Ribbon** menu,
 - These may be applied from the **More Views...** form which may be accessed from many places,
- The instructor will leave you through some existing views.

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14.1 Understanding Views

- A **View** is a function where the formatting such as **Grouping, Table, Filter, Print Settings** and **Bar** formatting are saved as a **View** and reapplied later,
- 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,
- A **View** is based on one of 16 **Screens** when it is created,
- The **Screen** may not be changed after the **View** is created.

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14.2 Creating a New View

- A new View may be created by copying and editing an existing View, or creating a new View,
- The instructor will demonstrate how to create a new view.

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14.3 Details Form

- **Details** forms are the third level of formatting that may be assigned in some views,
- Each **Details** view has a number of options, which tends to make this aspect of Microsoft Project difficult for all levels of users,
- The **Details** forms may be selected in the bottom pane by right-clicking in the active pane to open a menu,
- The instructor will demonstrate examples of Details forms.

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17.2 Grouping Resources in the Resource Sheet

- Resources may be grouped on any data fields, such as Custom Fields and Custom Outline Codes, using the **View, Data, Group by:** function. The example below shows resources grouped by **Resource Group:**

Resource Name	Type	Material Label	Initials	Group	Max Units	Std. Rate	Base Calendar	Cost/Use	Ovt. Rate	Accrue At
* Type: Work										
1	Project Manager	Work	PM	Office	1	\$120.00/hr	Standard	\$0.00	\$0.00/hr	Prorated
2	Systems Engineer	Work	SE	Office	1	\$90.00/hr	Standard	\$0.00	\$0.00/hr	Prorated
3	Project Support	Work	PS	Site	1	\$80.00/hr	Standard	\$0.00	\$0.00/hr	Prorated
4	Purchasing Officer	Work	PO	Office	1	\$70.00/hr	Standard	\$0.00	\$0.00/hr	Prorated
5	Clerical Support	Work	CS	Office	1	\$50.00/hr	Standard	\$0.00	\$0.00/hr	Prorated
* Type: Material										
7	Report Binding	Material each	RB			\$100.00		\$0.00		Prorated
* Type: Cost										
6	Specialist Consultant	Cost	SC	Contractor						Prorated

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17.3 Resource Information Form

- The **Resource Information** form is opened by double-clicking on a specific row within the **Resource Sheet** view.

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17.4 Resource Calendars

- Tasks calendars may not accommodate specific resource availability,
- Resource Calendars, on the other hand, can be used to schedule this resource-specific nonworking time,
- A unique resource calendar is created automatically when a resource is created and is a copy of the project **Base Calendar** when the resource is created,
- This topic is extremely complex and is covered in the book in detail but will not be covered in this course.

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Module 17 – Creating Resources and Costs - Summary

Topics:

- Creating Resources in the Resource Sheet
- Grouping Resources in the Resource Sheet
- Resource Information Form
- Resource Calendars
- Workshop 15 - Defining Resources.

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17.5 Workshop 15 - Defining Resources

- The resources must now be added to this schedule,
- Since we have updated our project, we need to revert to the original schedule that we saved prior to updating the current schedule.

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Module 18 – Assigning Resources and Costs to Tasks

Topics:

- Fixed Costs
- Assigning Work without a Resource
- Resource Definitions
- Task Type and Effort-Driven
- Resource Calendars
- Assigning Resources
- Assignment of Resources to Summary Tasks
- Rollup of Costs and Hours to Summary
- Tasks Contour the Resource Assignment
- Workshop 16 - Assigning Resources to Tasks.

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20.5 Updating Dates and Percentage Complete

- The schedule should be first updated as outlined in the **Tracking progress** module,
- In summary, this is completed by entering:
 - The **Actual Start** and **Actual Finish** dates of **Complete** tasks,
 - The **Actual Start**, **% Complete**, **Remaining Duration** or **Expected Finish** of **In-Progress** tasks,
 - Adjust Logic and **Durations** of **Un-started** tasks.

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20.6 Updating Resources

- There are many permutations available in the **File, Options** form for calculating resource data,
- Due to the number of resource options and numerous forms available in Microsoft Project, it is not feasible to document or teach all the combinations available,
- One or more resources may be applied to a task and you may want to enter both the **Actual Work** and the **Remaining Work** independently,
 - In this situation you will need to unlink **% Complete** and **Actual Work** with the **Updating task status updates resource status** option in the **File, Options, Schedule** tab,
 - Now the **% Work** field will be linked to the **Work, Actual Work** and **Remaining Work** fields and will now operate independently of the **% Complete** field.

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Updating Resources (continued)

- You may want to enter both the **Actual Work** and **Actual Costs** separately,
- This process is very time consuming and requires significant organizational commitment to succeed,
- In this situation you will need to:
 - Unlink **% Complete** and **Actual Work** with the **Updating task status updates resource status** option in the **File, Options, Schedule** tab, and
 - Unlink the **Actual Work** and **Actual Costs** by disabling the **Actual costs are always calculated by Project** option in the **File, Options, Schedule** tab.

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Additional Updating Functions

Microsoft Project has two functions that may assist in updating a project:

- Update work as completed through:** (date)
 - When a project is updated using the **Update Project** form the project is updated as if it were progressing exactly according to plan and the **Status Date** is set to the same date as **Project Update Date** at 17:00hrs, and
- Reschedule uncompleted work to start after:** date
 - This function is used to move the **Incomplete Work of In-Progress** tasks into the future,
 - In-Progress** tasks must be able to **Split** for this function to operate. The option to split tasks is found on the **File, Options, Schedule** tab,
 - The **Status Date** is **NOT** set to the **Reschedule uncompleted work to start after:** date when this function is used.

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20.7 Splitting Tasks

When the **Split in-progress tasks** option is enabled, a task may be **Split** by:

- Dragging the incomplete portion of a task in the bar chart, or
- Clicking on the **Split** button and then moving your cursor over the point on the task bar where you want a split and dragging the task, or
- Using the **Project, Status** group, **Update Project, Reschedule uncompleted work to start after:** function, or
- Commencing a task before its predecessor finishes,
- In the picture below the upper task was split using the **Split** button and the lower task was split because it commenced before its predecessor.

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20.8 Summary Tasks and Earned Value

- Actual Costs** and **Work** may be summarized at any level in the same way as **Work** and **Costs**,
- The picture below is showing the **Earned Value** table. The costs have been summarized up to the Project Level:

Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
1 # Bid for Facility Extension	\$7,440.00	\$7,908.00	\$8,040.00	\$468.00	-\$132.00	\$55,979.16	\$55,060.00	-\$919.16
2 # Technical Specification	\$7,440.00	\$7,908.00	\$8,040.00	\$468.00	-\$132.00	\$20,130.53	\$19,800.00	-\$330.53
3 Approval to Bid	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
4 Determine Installat	\$6,720.00	\$6,720.00	\$5,040.00	\$0.00	\$1,680.00	\$5,040.00	\$6,720.00	\$1,680.00
5 Create Technical Sp	\$720.00	\$1,188.00	\$3,000.00	\$468.00	-\$1,812.00	\$21,717.17	\$8,600.00	-\$13,117.17
6 Identify Supplier Cc	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,120.00	\$1,120.00	\$0.00
7 Validate Technical !	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,360.00	\$3,360.00	\$0.00
8 Delivery Plan	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21,520.00	\$21,520.00	\$0.00
14 Bid Document	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13,740.00	\$13,740.00	\$0.00

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Summary Tasks and Earned Value (continued)

- The method that Microsoft Project uses to calculate the Earned Value data is documented in the Help file and should be read carefully, as different versions of Microsoft calculate these fields differently,
- Should different Earned Value calculations be required then Custom Data Fields should be considered as an alternative.

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Module 20 – Updating Projects with Resources - Summary

Topics:

- Understanding Baseline Dates, Duration, Costs and Hours
- Understanding the Status Date
- Formatting the Status Date
- Information Required to Update a Resourced Schedule
- Updating Dates and Percentage Complete
- Updating Resources
- Additional Updating Functions
- Splitting Tasks
- Summary Tasks and Earned Value
- Workshop 18 - Updating a Resourced Schedule.

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20.9 Workshop 18 - Updating a Resourced Schedule

- We need to update the tasks and resources,
- The instructor will demonstrate this workshop first.

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Review Expectations

- Complete Feedback Sheet and
- Have we met your expectations?

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Thank you for attending

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