

Eastwood Harris Pty Ltd - Microsoft Project Training Material

**PLANNING AND CONTROL USING
MICROSOFT® PROJECT
2013, 2016 & 2019**



PAUL E. HARRIS

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Welcome to the
Eastwood Harris Pty Ltd
Planning and Control Using
Microsoft Project
2013, 2016 and 2019
training course



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Administration

- Evacuation
- Timings, meals and facilities
- Mobile phones and emails
- Introductions
 - Your name
 - Your position or role
 - Experience in using scheduling software
 - What you wish to learn from this course
 - How you expect to use the software
- Course attendance sheet.



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Course Objectives

This course objectives to are teach:

- The user interface
- How to create a project,
- Creating a schedule without resources,
- Filters, Grouping, Layouts 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 Conduct

The course consists of:

- The instructor demonstrating the software using a combination of:
 - A PowerPoint slide show and
 - Live software demonstrations,
- Most chapters are then reinforced with student workshops working through a scenario of creating a small project planning the submission of a bid,
- The book is for you to keep,
- Ask any questions as the course progresses.



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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 2013, 2016 or 2019 or Microsoft Office Project Standard 2013, 2016 or 2019,
- 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 a project 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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3.11 - Select All Button

- The **Select All** button should be used to select all tasks in order to copy them or delete them.

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3.12 - Short Cut Keys

- The normal windows short cut keys such as Ctrl+C and Ctrl+V or **Copy and Paste**, Ctrl+B for **Bold**, Ctrl+I for **Italic**, Ctrl+V and Ctrl+Z for **Undo and Redo**, and Ctrl+X for **Cut** operate with Microsoft Project.
- There are far too many short cut keystrokes available that most people never use and a list may easily be found by searching help, F1 key, or searching on the internet.
- Some commonly used ones are listed in the book.

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3.13 Help – Tell me what to do

- Microsoft Project 2016 introduced a function titled **Tell me what to do**. This function is located in the menu bar and typing a question in the box supplied interactive help:

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Module 3 - Navigation and Setting the Options - Summary

Topics:

- Starting Microsoft Project Professional and Standard
- Identify the Parts of the Project Screen
- Customizing the Screen
- Microsoft Project Windows
- Status Bar
- Forms Available from the Ribbon Groups
- Right-clicking with the Mouse
- Adding the Task Bars in the Gantt Chart
- Setting Up the Options
- Mouse Pointers

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Module 3 - Navigation and Setting the Options – Summary

- Select All button
- Sort Cut Keys
- Help – Tell me what to do
- Workshop 1 – Navigation and Setting Your Project Options

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3.12 - Workshop 1 – Navigation and Setting Your Project Options

In this workshop you will:

- Practice navigating around the screen,
- Set the options to allow durations to be entered in days,
- Ensure that a useful date format is displayed and
- Ensure other options are set so the software operates in a simpler mode than the standard defaults.

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Module 7 – Organising Tasks Using Outlining - Summary

Topics:

- Understanding Outlining
- Creating an Outline
- Promoting and Demoting Tasks
- Summary Task Duration Calculation
- Summarizing Tasks
- Project Summary Task
- Workshop 5 - Entering Summary Tasks.

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7.7 Workshop 5 - Entering Summary Tasks

- We are creating a schedule for bidding the project,
- We will add a Summary Task to represent the project and
- We will add Summary Tasks for the Deliverables/Products of the Initiation Phase which are the following documents:
 - Technical Specification
 - Delivery Plan
 - Bid Document

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Module 8 – Formatting the Display

Topics:

- Formatting the Columns
- Formatting Time Units
- Formatting the Bars
- Row Height
- Format Fonts
- Format Timescale
- Format Gridlines
- Format Colors
- Format Links, Dependencies, Relationships, or Logic Lines
- Workshop 6 - Formatting the Bar Chart.

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Formatting the Display

- This chapter covers the formatting topics, which are used to format the on-screen display and which are also reflected in print preview and printouts.

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8.1 - Formatting the Columns

We will explain the following functions:

- Tables
- Custom Fields
- Column Name issues
- Inserting Columns
- Format Columns group menu
- Hiding Columns
- Adjusting the Width of Columns
- Moving Columns
- Formatting Columns
- Using the Table Function.

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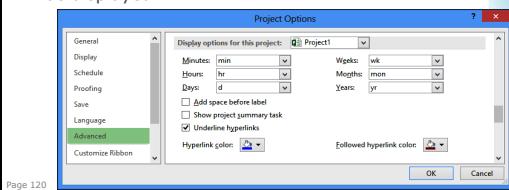
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8.2- Formatting Time Units

▪ Select File, Options, Advanced, Display options for this project:

- The **Display options for this project:** always specifies the time units, for example **day**, **dy** or **d**,
- Uncheck the **Add space before label** check box to remove a space between the value and label in date columns which allows a narrower Duration column to be displayed.



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8.3 - Formatting the Bars

- Microsoft Project has several options for bar formatting:
 - All the bars may be formatted to suit user definable parameters, or
 - Individual bars may be formatted,
- We will demonstrate:
 - Formatting all task bars using the **Bar Styles** form,
 - Format, Bar Styles** group menu,
 - Format, Gantt Chart Styles** group menu,
 - Placing Names on bars,
- Note:** Projects formatted with the **Gantt Chart Wizard** and projects created in earlier versions of Microsoft Project will have formatting that is incompatible with the Microsoft Project 2007 **Format, Bar Styles** group buttons.

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8.4 - Row Height

- Row heights may be adjusted to display text that would otherwise be truncated by a narrow column,
- The row height of one or more columns may also be adjusted in a similar way to adjusting row heights in Excel, by clicking on the row and dragging with the mouse,
- If all the rows are to be adjusted, then click on the **Select All** button above row number 1, to highlight all the tasks,
- Microsoft Project 2010 introduced a **Wrap Text** command found on the **Format, Columns** group, **Column Settings, Wrap Text** which automatically adjusts the row height to fit the text into the available column width,
- NOTE:** Ensure you select the column when you use the **Wrap Text** command.

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8.5 - Format Fonts

- Format Cells
 - The **Format, Font...** function from Microsoft 2007 and earlier has been replaced with a right-click option and allows you to format any selected text in selected cells, rows or columns,
- Format Text Styles
 - The **Format, Format** group, **Text Styles** command opens the **Text Styles** form,
 - This allows the selection of a text type from the **Item to Change:** drop-down box and apply formatting to the selected item.

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8.6 - Format Timescale

Zoom Slider

- The **Zoom Slider** was introduced with Microsoft Project 2010, and is intended to be used to change the scale of the Gantt Chart; replacing the old **View, Zoom...** function,
- It is found at the bottom right-hand side of the screen and you may receive some interesting results with this function,
- Note:** It is recommended that you do not use this function to change the timescale. You should instead use the **Zoom In** and **Zoom Out** buttons in combination with the **Timescale** form **Size** function to scale the **Gantt Chart**,

Timescale Form

The **Timescale** form provides a number of formatting options for the timescale located above the Bar Chart, including the scaling of **Nonworking** time,

- The easiest way to open the **Timescale** form, double-click on the timescale.

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8.7 - Format Gridlines

- Gridlines** are important to help divide the visual presentation of the Bar Chart,
- To format the Grid Line select **Format, Format** group, **Gridlines, Gridlines...** to open the **Gridlines** form,
- The instructor will now demonstrate these functions.

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8.8 - Format Colors

Colors are formatted in a number of forms and there is no single form for formatting all colors:

- Nonworking time** colors in the Gantt Chart are formatted in the **Timescale** form,
- Text** colors are formatted in the **Text Styles** and **Font** forms,
- Gridline** colors are formatted in the **Gridlines** form,
- Hyperlink** colors are formatted under **File, Options, Advanced, Display options for this project**,
- Timescale** colors are with the **File, Options, General tab, User Interface Options, Color scheme:** option.
- The **Logic Lines**, also known as **Dependencies, Relationships, or Links**, inherit their color from the predecessor's bar color in the Gantt Chart view and may be formatted in the Network Diagram view by selecting **Format, Format** group, **Layout**.

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Module 12 – Filters - Summary

Topics:

- Understanding Filters
- Understanding the Filter Menu
- Applying an Existing Filter
- Creating and Modifying Filters
- Defining Filter Criteria
- AutoFilters
- Workshop 10 – Filters.

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12.9 Workshop 10 - Filters

- Management has asked for some reports to suit their unique requirements,
- We will apply and create some filters.

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Module 13 –Tables and Grouping Tasks

Topics:

- Understanding Project Breakdown Structures
- Tables
- Custom Fields
- Grouping
- Workshop 11 - Reorganizing the Schedule.

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13.1 Understanding Project Breakdown Structures

- A Project Breakdown Structure often represents a hierarchical breakdown of a project into logical functional elements,
- The following are examples of such structures:
 - WBS - Work Breakdown Structure,
 - PBS - Product Breakdown Structure,
 - OBS - Organization Breakdown Structure,
 - CBS - Contract Breakdown Structure,
 - SBS - System Breakdown Structure,
- This module will look at functions available in Microsoft Project to represent these structures in your schedule.

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13.2 Tables



- A Table selects and formats the columns of data to be displayed in a View,
- The formatting of tables is covered in the **Formatting the Display** module,
- A table may be applied to one or more Views which display data in tables,
- There are two types of tables:
 - **Task** tables that are applied to **Task Views** and
 - **Resource** tables that are applied to **Resource Views**.
- A View is permanently changed when it is assigned a different Table,
- The instructor will demonstrate how to create a new Table and edit an existing Table.

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13.3 Custom Fields

- A **Custom Field** is an existing Microsoft project field that may be:
 - Renamed to suit your projects requirements,
 - Tailored to display specific data in a specific format,
 - Assigned a list, such as a list of values or people, that may be assigned from a drop-down list, or
 - Assigned a formula for calculating data from other fields,
- The instructor will demonstrate how to create a Custom Field.

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13.4 Grouping

- Grouping allows grouping of tasks under data items such as Customized fields, Durations, Constraints, etc:

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

Task Name	Duration	Start	Finish	System	Building
1 Basic Design	5 days	17 Dec '18	21 Dec '18		
2 Design System 1	4 days	24 Dec '18	27 Dec '18		
3 Design System 2	2 days	26 Dec '18	28 Dec '18	1	A
4 Design System 3	3 days	24 Dec '18	26 Dec '18	2	A
5 Design	1 day	27 Dec '18	28 Dec '18		
6 Design	1 day	28 Dec '18	29 Dec '18		
7 Design	1 day	29 Dec '18	30 Dec '18		
8 Procure	4 days	30 Dec '18	2 Jan '19		
9 Procure 1	2 days	31 Dec '18	1 Jan '19		
10 Procure 2	2 days	31 Dec '18	1 Jan '19		
11 Procure 3	2 days	31 Dec '18	1 Jan '19		
12 Install	4 days	1 Jan '19	4 Jan '19		
13 Install 1	2 days	2 Jan '19	3 Jan '19		
14 Install 2	2 days	2 Jan '19	3 Jan '19		
15 Install 3	2 days	2 Jan '19	3 Jan '19		
16 Install 4	2 days	2 Jan '19	3 Jan '19		
17 Install 5	2 days	2 Jan '19	3 Jan '19		
18 Install 6	2 days	2 Jan '19	3 Jan '19		
19 Test System 1	2 days	4 Jan '19	5 Jan '19		
20 Test System 2	2 days	4 Jan '19	5 Jan '19		
21 Test System 3	2 days	4 Jan '19	5 Jan '19		
22 Test Sy 1	1 day	24 Dec '18	28 Dec '18	1	A
23 Test Sy 1	1 day	24 Dec '18	28 Dec '18	2	A
24 Test Sy 1	1 day	24 Dec '18	28 Dec '18	3	A
25 Test Sy 1	1 day	24 Dec '18	28 Dec '18	3	A
26 Commission System	2 days	18 Jan '19	21 Jan '19		

The instructor will demonstrate the Grouping function, L
Select View, Data group, group by.

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Module 13 –Tables and Grouping Tasks - Summary

Topics:

- Understanding Project Breakdown Structures
- Tables
- Custom Fields
- Grouping
- Workshop 11 - Reorganizing the Schedule.

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

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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.

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

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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

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

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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** menu **View**, **Task Views** group or the **Resource Views** group,
 - Right clicking in the band on the right hand side of the screen,
- There are more views available than the Views listed on the **Ribbon** menu,
- These additional views may be applied from the **More Views...** form which may be accessed from many places,
- The instructor will lead you through some existing views.

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

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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, say for displaying tasks by Contract Package or by Phase,
- 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.

The screenshot shows a Microsoft Project interface with a Gantt chart. The tasks are grouped by building, as indicated by the 'Building' column in the table below. The tasks include 'Basic Design', 'Design System 1', 'Design System 2', 'Procure 1', 'Procure 2', 'Procure 3', 'Install 1', 'Install 2', 'Install 3', 'Install 4', 'Install 5', 'Install 6', 'Test System 1', 'Test System 2', 'Test System 3', 'Design System 3', 'Pressure System 1', 'Pressure System 2', 'Pressure System 3', 'Text System 1', 'Text System 2', 'Text System 3', and 'Commission System'. The Gantt chart displays the start and end dates for each task, with bars color-coded by resource.

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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 **Bottom Pane** 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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14.4 Timeline View

- The Timeline view allows you to clearly understand how much of the Gantt Chart is displayed on the screen,
- The **Timescale** view is shown above the Gantt Chart by selecting **View, Split View** group and checking the **Timeline** check box,
- A task may be added to the **Timeline** view by selecting the **Add to Timeline** found in many menus.

Right click in Gantt Chart to display a menu and select Show Timeline



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Timeline View in Microsoft Project

Microsoft Project 2016 introduced the ability to:

- Add multiple Timelines,
- Change the start and Finish date of the Timeline and
- Format the Colors of each individual Timeline,

The instructor will demonstrate.

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14.5 A Logical Process for Developing a View

The following process is suggested for creating a new View:

- Collect the View requirements,
- Plan the naming/coding system to be used if there are a number of views to be created,
- Create any Custom fields required,
- Create the Table, Filter and Grouping to be used with the View,
- Create the View and assign the Table, Filter and Grouping,
- Create the print headers and page setup,
- Format the Timescale, Gridlines, Bars,
- Apply any special sorting or font formatting,
- Save the file,
- Copy the View to create all new Views with the Print settings and Gant Chart formatting set as a standard in the first View.

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Module 14 - Views & Details - Summary

- Applying an Existing View
- Understanding Views
- Creating a New View
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18.11 Rollup of Costs and Hours to Summary

- The summary task **Cost** and **Work** fields are calculated from the sum of the costs and work assigned to the related detail tasks and those of the summary task,
- Summary tasks have the costs and work rolled up to give you a cost at any Outline level.

Task Name	Work	Cost
1 Bid for Facility Extension	520hrs	\$55,000.00
2 Approval to Bid	0hrs	\$0.00
3 Technical Specification	450hrs	\$19,000.00
4 Determine Installation Requirements	64hrs	\$6,720.00
5 Create Technical Specification	40hrs	\$8,600.00
6 Identify Supplier Components	16hrs	\$1,120.00
7 Validate Technical Specification	32hrs	\$3,360.00
8 Delivery Plan	224hrs	\$21,520.00
9 Document Delivery Methodology	32hrs	\$3,840.00
10 Obtain Quotes from Suppliers	128hrs	\$12,160.00
11 Calculate the Bid Estimate	24hrs	\$1,920.00
12 Create the Project Schedule	24hrs	\$1,920.00
13 Review the Delivery Plan	16hrs	\$1,680.00
14 Bid Document	144hrs	\$13,400.00
15 Create Draft of Bid Document	96hrs	\$8,160.00

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18.12 Contour the Resource Assignment

- A Resource Assignment may be assigned to a task with a non-linear profile,
- Open the **Assignment Information** form by:
 - Double-clicking on a resource in the **Task Usage** or **Resource Usage** view, or
 - Right-clicking on a resource and selecting **Information** (Assignment) from the menu.

Task Name	Work	Details	M	T	W	T	F
Example Task	360 hrs	Work	47.68h	103.27h	76.1h	86.27h	46.68h
Flat	40 hrs	Work	8h	8h	8h	8h	8h
Back Loaded	40 hrs	Work	1.67h	5h	8.33h	11.67h	13.33h
Front Loaded	40 hrs	Work	13.33h	11.67h	8.33h	5h	1.67h
Double Peak	40 hrs	Work	6h	12h	4h	12h	6h
Early Peak	40 hrs	Work	6h	16h	10h	6h	2h
Late Peak	40 hrs	Work	2h	6h	10h	16h	6h
Bell	40 hrs	Work	2.4h	9.6h	16h	9.6h	2.4h
Turtle	40 hrs	Work	4.28h	10h	11.43h	10h	4.28h
Contoured	40 hrs	Work	4h	25h	0h	8h	3h

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Module 18 – Assigning Resources and Costs to Tasks - Summary

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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18.13 Workshop 16 - Assigning Resources to Tasks

- The resources must now be assigned to their specific tasks.

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Module 19 – Resource Optimizing

Topics:

- Resource Graph Form
- Resource Graph View
- Resource Tables View
- Detailed Styles Form
- Team Planner View
- Printing Resource Profiles and Tables
- Creating Resource Graphs, Crosstab Tables, S-Curves in a Spreadsheet
- Resource Optimization
- Workshop 17 – Resource Graphs and Tables.

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Resource Optimizing

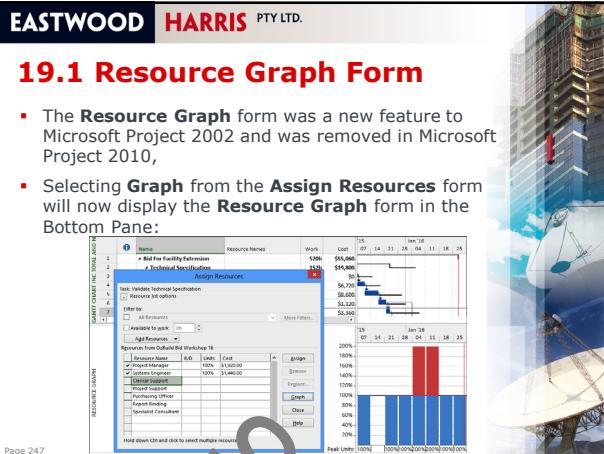
- At this point in the preparation of the schedule the resources should be reviewed and optimized to ensure that they are being:
 - Efficiently used, and
 - Sufficient resources are available,
- This chapter will briefly cover the following topics which will enable you to review your resources:
 - Resource Histograms
 - Resource Tables
 - S-Curves
 - Leveling.

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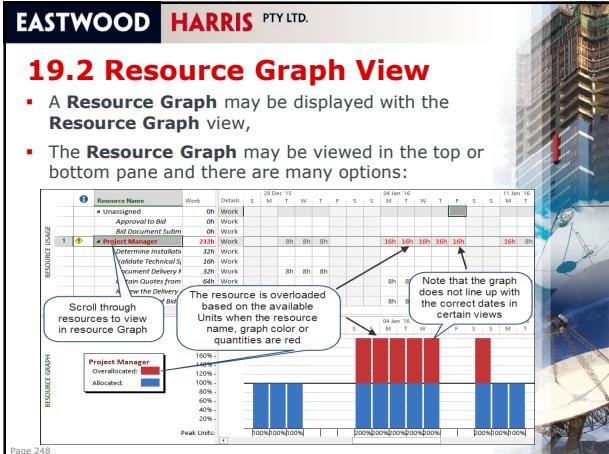
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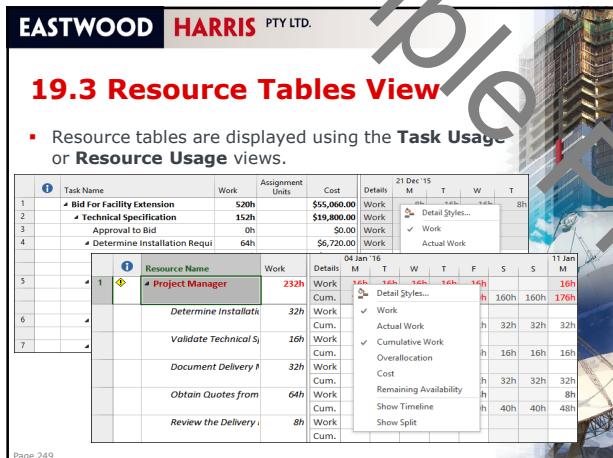
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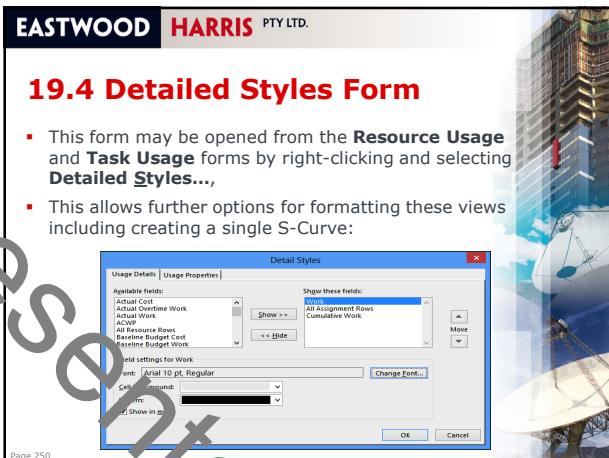
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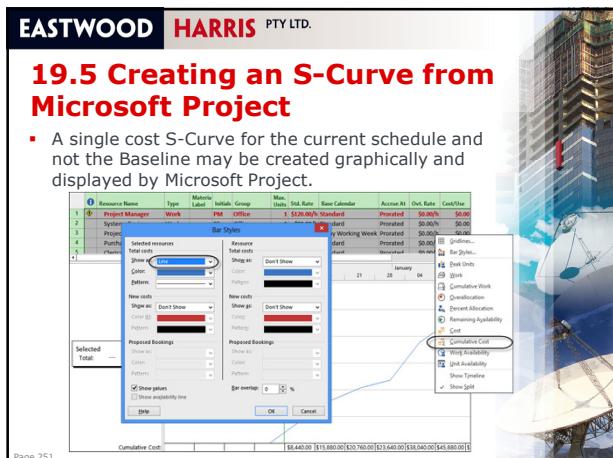
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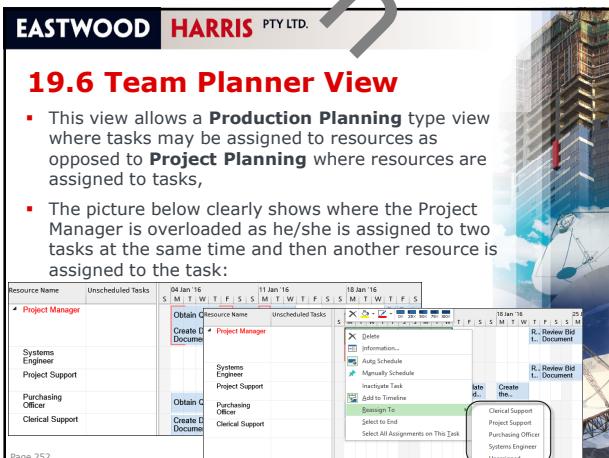
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19.7 Printing Resource Profiles and Tables

- To Print a Task Usage, Resource Usage, or Resource Graph, make the appropriate Pane active and use the print functions as described in the PRINTING AND REPORTS chapter.

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19.8 Creating Resource Graphs, Crosstab Tables, S-Curves in a Spreadsheet

- Resource Graphs, Crosstab Tables, S-Curves and may be created for displaying:
 - Planning information, such as the number of people required or a project cash flow,
 - Progress in terms of hours spent or cost to date, and
 - Performance, for example comparing planned and actual hours or costs to date,
- The information for creating these is in the book but will not be covered as part of this course.

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19.9 Resource Optimization

- There are many techniques to optimize resource requirements caused by:
 - Overloading or peaks in resource requirements, or
 - To resolve uneconomical use of resources due to intermittent resource use resulting in additional costs required to demobilize and remobilize crews,
- These techniques include:
 - Turning off Automatic Calculation and Dragging Tasks
 - Constraining Tasks
 - Sequencing Logic
 - Leveling Function.

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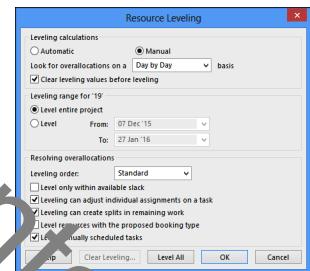
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Resource Leveling function

- Microsoft Project has a basic resource leveling function that is set up through the Resource Leveling form by selecting Resource, Level group, Leveling Options.



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Module 19 – Resource Optimizing - Summary

Topics:

- Resource Graph Form
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- Workshop 17 – Resource Graphs and Tables.

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19.10 Workshop 17 – Resource Graphs and Tables

- We will create a copy of our current project file for this workshop,
- Then use Usage Views and Graphs to isolate the resources that are over allocated and
- Level the schedule using the Microsoft Project Leveling function.

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Module 20 – Updating Projects with Resources

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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Updating 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,
- Updating 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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Updating a Resourced Schedule

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

1. The dates, durations and relationships are updated 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,

Note: These values may be either:

- Automatically updated by Microsoft Project from the % Complete, or
- Imported from accounting and timesheet systems.

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20.1 Understanding Baseline Dates, Duration, Costs and Hours

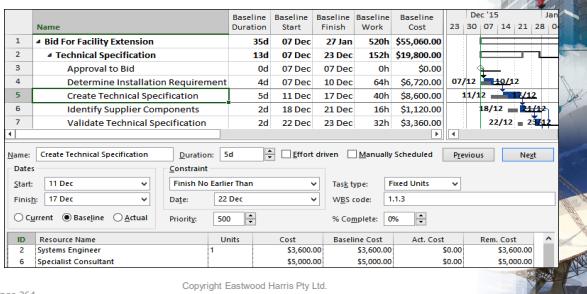
- **Baseline Dates** and **Baseline Duration** were covered earlier,
- **Baseline Costs** are also known as Budgets and represent the original project cost estimate. These are the figures against which the expenditures and Cost at Completion (or Estimate at Completion) are measured,
- **Baseline Work** is also known as Budgeted Quantity and represents the original estimate of the project quantities. These are the quantities against which the consumption of resources are measured,
- **Note:** If resources have been assigned then the Baseline Costs and Work are recorded at the same time as the Baseline dates.

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Understanding Baseline Dates, Duration, Costs and Hours

- The picture below shows the display of Baseline data:



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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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