Computer Training Centre
University College Cork

Excel 2016
Level 1

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Table of Contents

Introduction 1
Opening Excel 1
Using Windows 8 1
Using Windows 10 1
Getting Started with Excel 2016 2
To set up Excel so it automatically opens a new workbook 2
Saving Workbooks 3
Where to Save your Files 4
The Excel Window 5
The File Menu 6
The Ribbon Menu 6
Tabs 6
Dialog Box Launcher 6
Quick Access Toolbar 7
Adding to the Quick Access Toolbar 7
Removing a button from the Quick Access Toolbar 7
Page Layout View 7
The Excel Work Book 8
Sheet Tabs 8
Renaming a Tab 8
Adding a new sheet 8
Changing the Tab Colour of a Worksheet 8
Deleting a Worksheet 8
Creating a new Excel Workbook 9
Saving an Excel File 9
Converting Old Excel Files to 2016 10
Opening an Existing Workbook 11
Closing a Workbook 11

Closing Excel 12
Cells 13
Types of Data 13
Entering Data in a Cell 13
Editing a cell 13
The Mouse Pointer 14
Autofill 14
The Home Tab – Basic Formatting 15
Formatting Data 15
Font Formatting 15
Using Styles 15
Using Format as a Table 16
Data Formatting 16
Cell Alignment 17
Duplicating and Moving Data 18
Using Copy and Paste 18
Using Cut and Paste 18
Paste Options 18
Rows and Columns 19
Inserting a Row 19
Inserting a Column 19
Inserting a Cell 19
Deleting Columns or Rows 20
Changing Column Widths or Row Heights 20
Column Width 20
To change the column width for the best fit 20
Row Height 20
To change the row height for the best fit 20
Using the Home Tab 21
Applying a Format to the Entire Worksheet 22

Freeze Panes 22
Un-Freeze Panes 22
Formula 23
Entering a Formula 23
Functions 23
Elements of a Function 24
AutoSum 24
Calculating sum of a range of cells 24
Inserting Functions 25
Average/Count/Max/Min 25
Sorting Data 26
AutoFilter 27
To turn off the AutoFilter 28
Charts 29
Creating a Chart 29
Chart Tools 29
Modifying Chart Data 30
Deleting a Data Series 30
Adding a Data Series 30
Resizing a Chart 30
Deleting a Chart 30
Print Preview & Printing 31
To preview your worksheet before printing 31
Print Options 31
Set printing options 31
Print all or part of the worksheet 32
To exit out of Print/Print Preview Screen 32
Page Setup 32
Adding Headers and Footers in Page Layout View 34

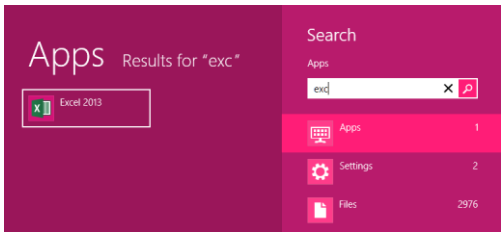
Introduction

Microsoft Excel is a spread sheet application that lets you organise your data into lists. Excel is capable of performing calculations, generating charts and has many tools to enable you to analysis and summarise your data.

Opening Excel

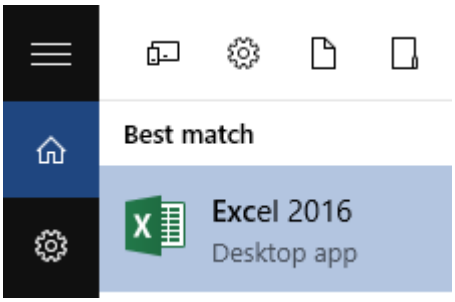
Using Windows 8

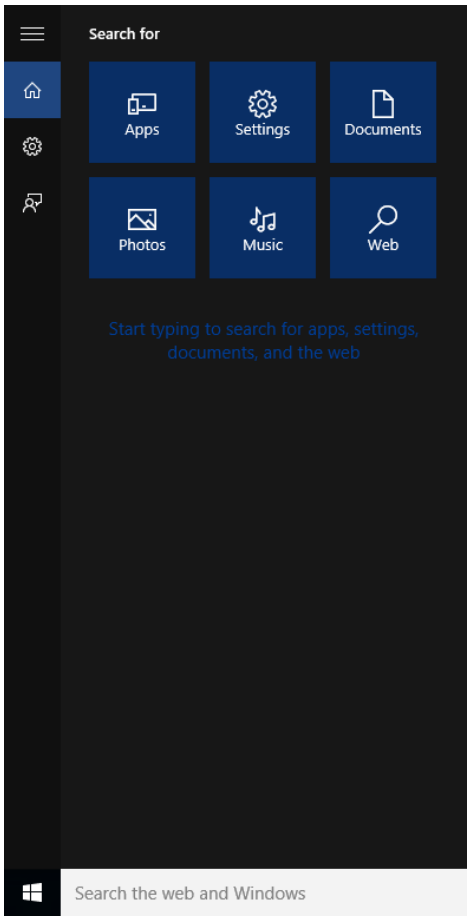
- Press the Windows key on the keyboard.
- Type Excel
- Click on **Excel 2016** under the Apps results



Using Windows 10

- Click in the box Search the web and Windows
- Start to Type Excel
- Click on Excel 2016





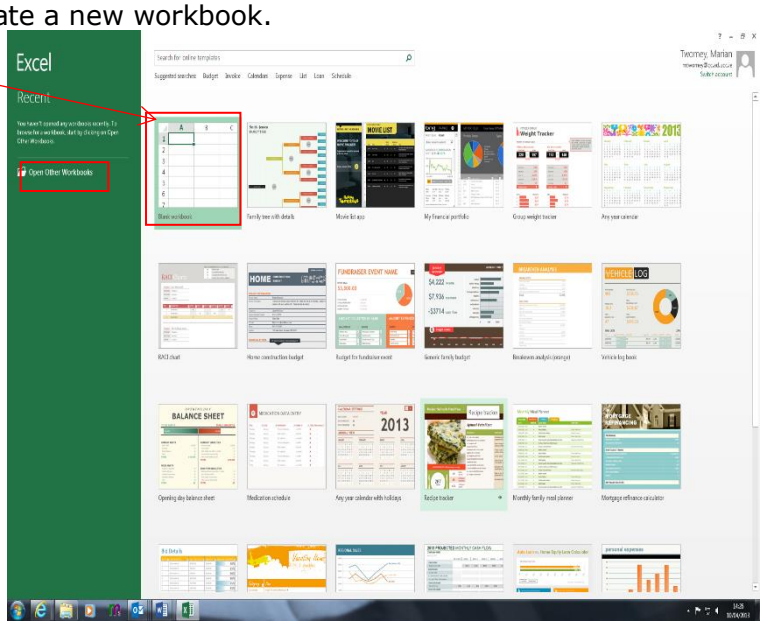
Getting Started with Excel 2016

When you open Excel 2016, you'll see templates for budgets, calendars, forms, and reports, and more.

- Click on **Blank workbook** to create a new workbook.

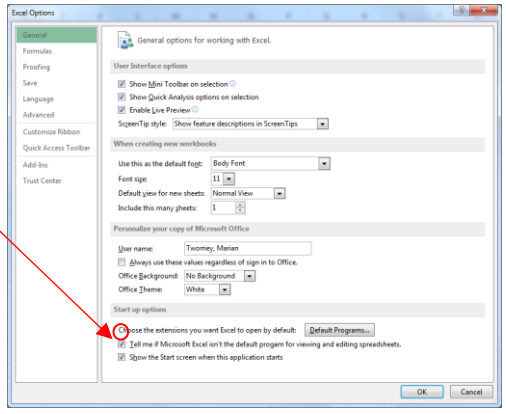
  or

- Click **Open Other Workbooks** to work on an existing workbook.



To set up Excel so it automatically opens a new workbook

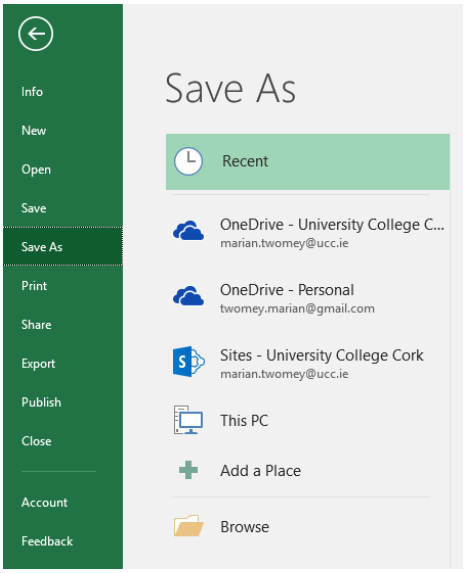
- Click **File** then **Options**.
- On the **General** tab, under **Start up options**, uncheck the **Show the Start screen** when this application starts box.
- The next time you start Excel, it opens a blank workbook automatically similar to older versions of Excel.



Saving Workbooks

Use the **File** tab to save your workbook wherever you want to save your workbook (on your computer or the web, or the network for example), use **Save As** to save your workbook for the first time

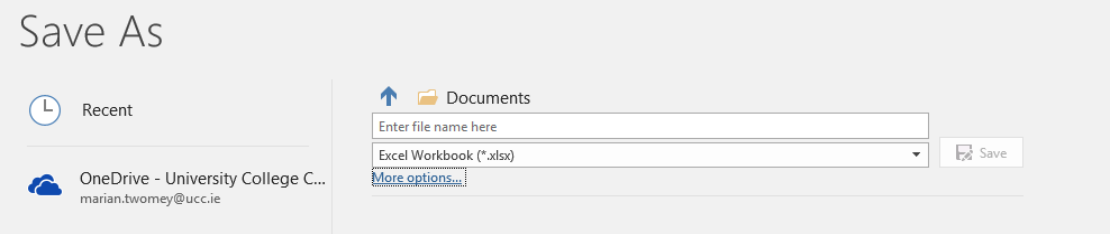
While you'll use **Save** to save an existing workbook in its current location, you need to, in a different location, or to create a copy of your workbook in the same or another location.



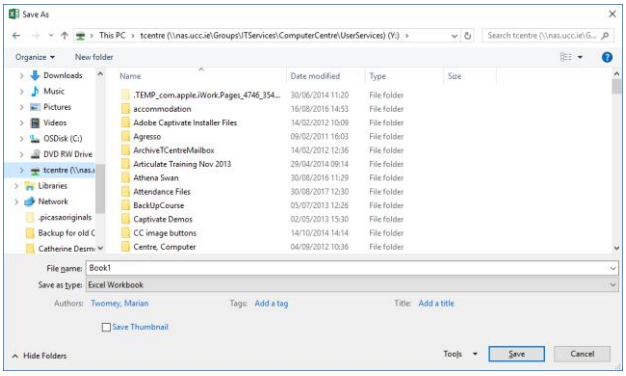
- Click **File > Save As.**

- Under **Save As**, pick the place where you want to save your workbook. **See the following page for further information before making your selection.**

- The filename can be entered in the following dialogue box



- By clicking on **More options...** OR by clicking Browse you will be able to view all locations available to save the file in the following dialogue



- In the file name box type a file name
- Click on **Save**

Where to Save your Files

When saving work related UCC files use one of the following options:

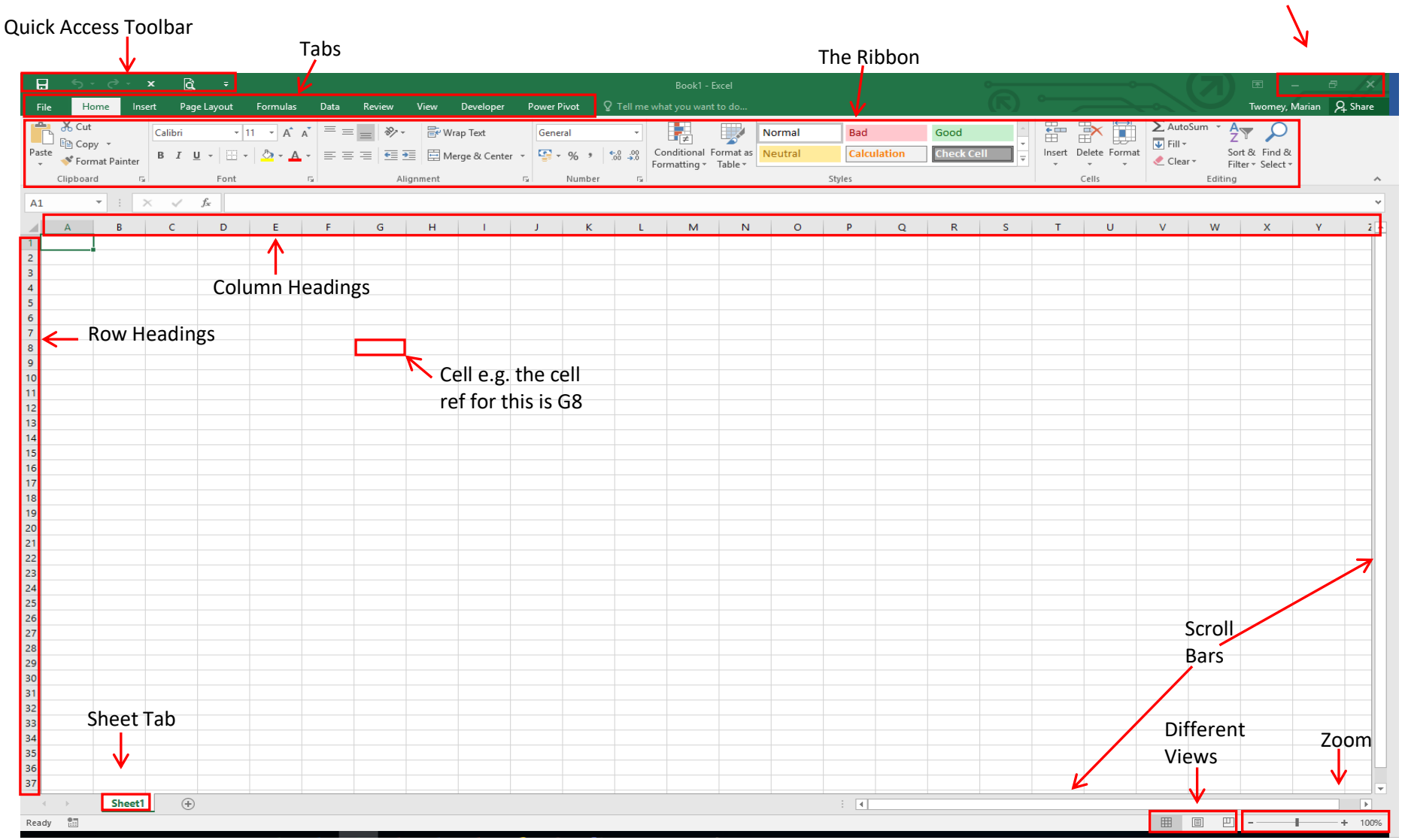
- **NAS** – this in the UCC network. Files stored on nas are backed up daily. Select this PC and navigate to nas. Folders can be setup to allow multiply users access to files. Check with your system administrator where on nas you have access to.

- **One Drive - University College Cork** – this is One Drive for Business which is web based storage. Saving here means you will have access to the file anywhere on any device once you are connected to the internet. This is generally used for a user's individual files and for short-term sharing and collaboration.

- **Sites – University College Cork** – SharePoint which is a web-based document management system. Saving here means you will have access to the file anywhere on any device once you are connected to the internet. This is generally used for project based files where a group of users need to share and collaborate on files. The SharePoint site would need to be set up in advance, check with your system administrator.

Note: Work related files should **NOT** be stored long-term on your PC (in the Documents folder, for example). If files are stored here the onus is on the user to back-up regularly.
One Drive Personal is NOT recommended for work files.

The Excel Window

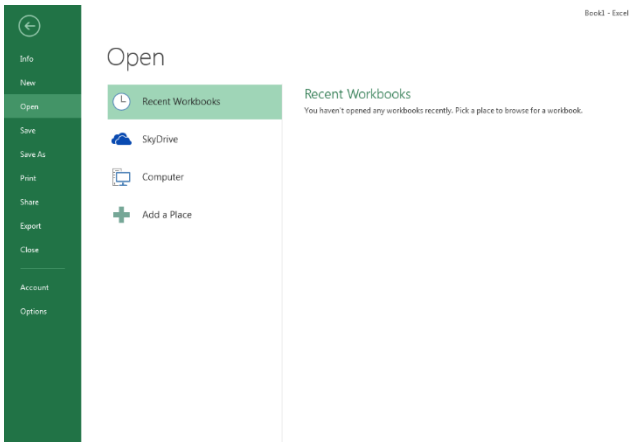


The File Menu

The File menu allows you access options such so creating a New file, Save, Save As, Close, New, Print (and Print Preview). To close the File menu click on the button on the top left or press Esc on the keyboard.

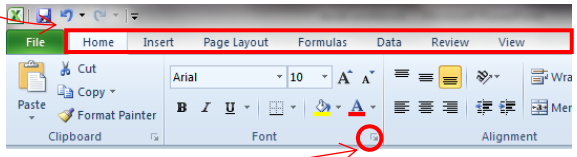
The Ribbon Menu

The Ribbon is designed to help you quickly find the commands that you need to complete a task.
Commands are organized in logical groups, which are collected together under tabs. Each tab relates to a type of activity, such as writing or laying out a page.



Tabs

There are 7 tabs in Microsoft Excel 2016. Tabs are used to organise together related groups of commands. The commands work in the same way as before e.g. if you want to make a piece of text appear in bold font, select the piece of text using the mouse, on the home tab, in the font group, click on the bold command button.



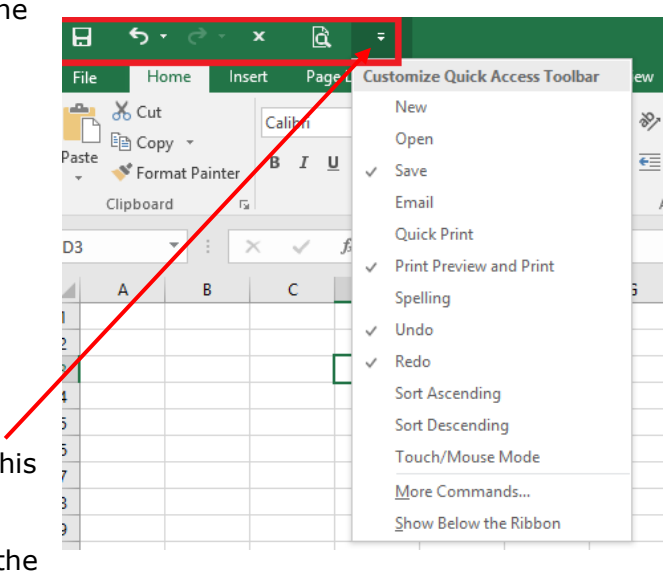
Dialog Box Launcher

At first glance, you may not see a certain command from a previous version of Excel. Some groups have a small diagonal arrow in the lower-right corner.

The arrow is called a Dialog Box Launcher. If you click it, you'll see more options related to that group. Those options will often appear in the form of a dialog box that you may recognize from a previous version of Excel.

Quick Access Toolbar

The Quick Access toolbar is located on the upper left hand corner above the File Menu It is a customizable toolbar that contains a set of commands that are independent of the tab that is currently displayed this means that the buttons remain the same no matter what tab is currently open. By default, it contains save, undo and re-do buttons.



By clicking on the arrow to the right of this toolbar you can quickly add other commands from the list or you can use the method outlined below. The position of the quick access toolbar can also be moved to below the Ribbon

Adding to the Quick Access Toolbar

There may be a command that you use on a regular basis that you would like to have access to without having to go through the ribbon interface. To add such a command to the quick access toolbar do the following:

- Locate the command in its tab
- **Right click** on the command button and from the menu that displays select **Add to quick access toolbar**
- The button will now be added to the toolbar

Removing a button from the Quick Access Toolbar

- Right click on the button in the quick access toolbar
- Select **Remove from quick access toolbar** from the menu that displays

Page Layout View

Page Layout View is a new feature since Excel 2007. It is similar in some ways to print layout view in Word.

- Click on the **View** Tab
- Select **Page Layout**

Alternatively

- Click on the Page Layout View in the bottom right hand corner of the Excel Window

The Excel Work Book

In Excel 2016, when you open up a new workbook it now contains only 1 worksheet

There can be a max of 1,048,576 rows and 16,384 columns in an excel work sheet.

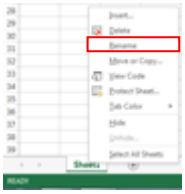
Sheet Tabs

The name of the sheet appears on a tab at the bottom of the workbook window. (Sheet1)

Renaming a Tab

It can be useful to name the sheets you are using.

- Right Click on the tab of the sheet to be named
- Select **Rename**
- Type the name of the sheet
- Press enter on the Keyboard.



Alternatively, double click on the sheet tab and type the new sheet name

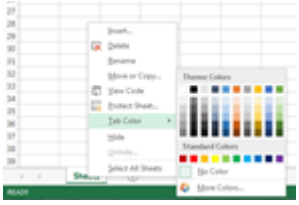
Adding a new sheet

This is useful to organize and store related information within the same file but on separate sheets. New sheets can be added to a workbook at any time

- Click on the insert worksheet button
- A new sheet will be created.

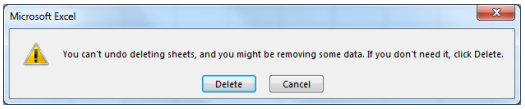
Alternatively, right click an existing sheet tab and select **Insert.** A new sheet will be inserted to the left of the worksheet. To move from sheet to sheet, click the sheet tabs.

Changing the Tab Colour of a Worksheet

- Right click on the sheet tab and click Tab  Color…
- Select the required colour

Deleting a Worksheet

- Right click on the sheet tab and select **Delete**.
- The following warning appears



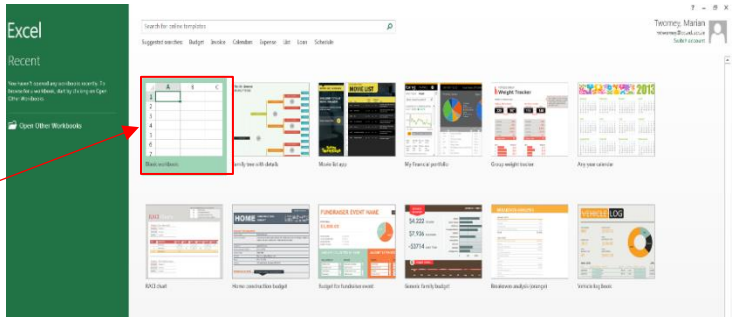
- Click **Delete** to permanently that worksheet.

Alternatively, from the **Home Tab** in the **Cells Group** click on Delete and select **Delete Sheet**.

Warning: The Undo button will not undo the deletion of a worksheet

Creating a new Excel Workbook

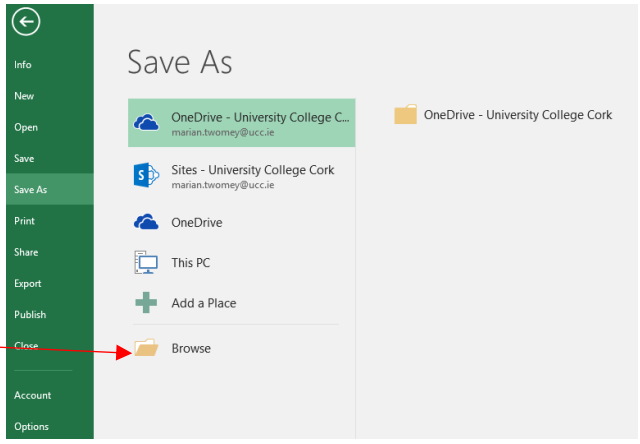
When you open Excel 2016, you'll see templates for budgets, calendars, forms, and reports, and more.



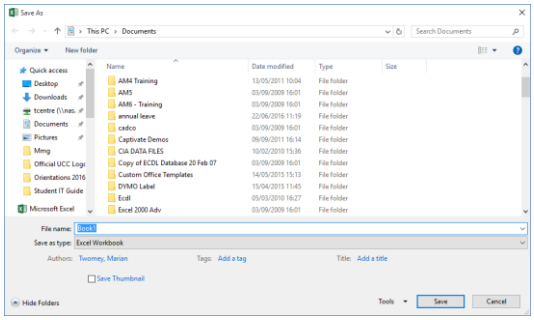
- Click on **Blank workbook** to create a new workbook.
- If you have closed an existing file and then wish to create a new workbook Click on the **File** menu and click **New** the same screen appears as when you open excel and you select Blank workbook.

Saving an Excel File

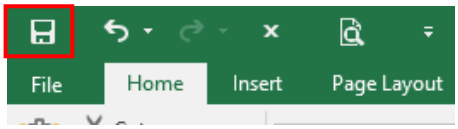
Before you begin adding content to your excel file it is considered best practice to save the file



- Click on the **File** menu and click **SaveAs**
- Click on **Browse** and the **Save As** window appears
- Select which folder you wish to save the file and type the file name in the filename box



- Click on **Save**.
- Once you saved the file the name of the file appears at the top of the screen It is recommended that you save your work regularly
- This can be done by clicking on the **Save** button on the **Quick Access Toolbar**



Converting Old Excel Files to 2016

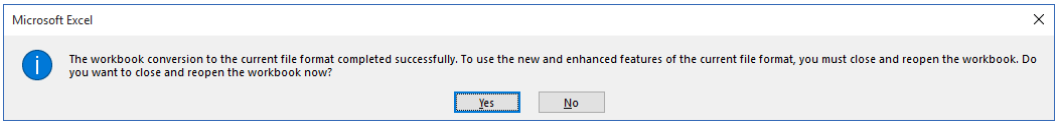
If you open an excel file that was originally created in a previous version of Excel **[Compatibility Mode]** is displayed beside the filename in the title bar on the top of the screen.

To convert the file to the current file version

- Click on **File** and click on **Info**
- Click on **Convert** Button

- The following screen appears. Click on **OK**

- A message is displayed indicating that the conversion was successful.



- Click Yes to close and reopen the file so the new features can be used.

Note: The

button will only appear if the file that is opened has been created in a version of Excel prior to Excel 2007.

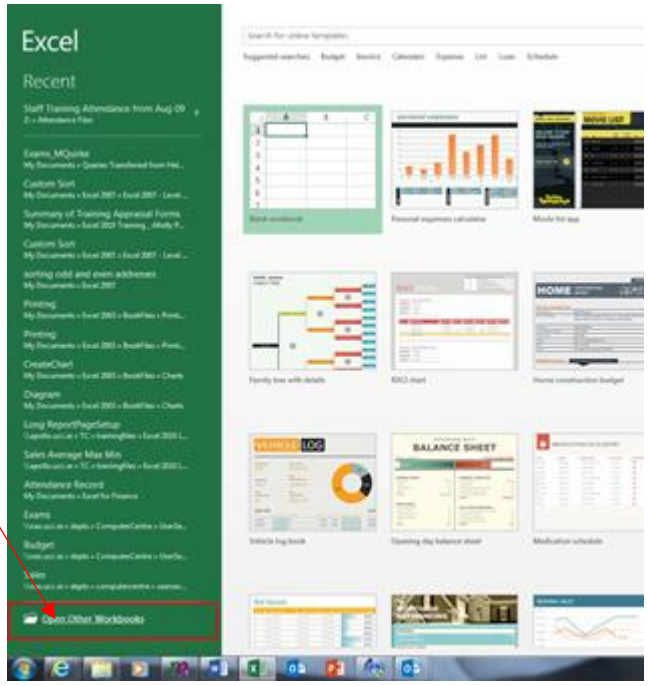
Opening an Existing Workbook

If you have just opened Excel

- Click on **Open Other Workbooks** at the bottom left of the File menu.

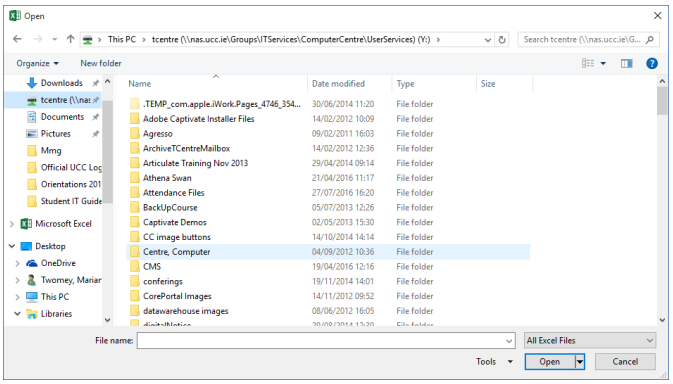
If you are already working in excel

- Click on the **File** menu and click on **Open**
- Click on **Recent Workbooks** if it is a file that you have been working on recently and click on the required file.



If the file has not been opened recently

- Click on **Browse**
- The Open dialogue box appears
- Locate your file and click on Open.



Closing a Workbook

- Click on the **File** menu
- Select **Close**

Alternatively

- Click on the **X** button on the top right of the screen.
- You will be prompted to save if you have any unsaved data in the file.

Closing Excel

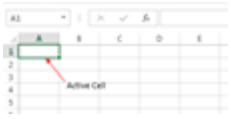
In earlier versions of Excel, you could exit Excel and close all open workbooks at once. To reduce confusion about the different close and exit commands in Office Backstage view (File tab), Exit has been removed since Excel 2013.

- File > Close or the Close button (in the upper-right corner of the application window) closes workbooks one at a time
- To exit Excel the way you did before, add Exit to the Quick Access Toolbar

Note: If you have made changes to the workbook you are prompted to save the workbook before it closes. (Click on Save if you wish to save the changes, Don't Save to discard changes or Cancel to cancel the command to close the file).

Cells

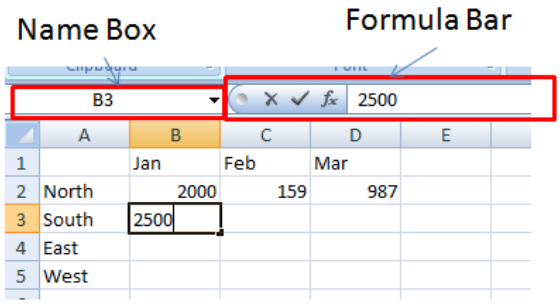
A cell must be selected **i.e.** made active before entering the information. To make the cell active, click into the cell using the mouse. The active cell address is displayed in the Name Box and a dark border appears around the cell.



Types of Data

Text, numbers, dates or a formula may be typed into a cell. By default, text aligns to the left of the cell whereas numbers, dates and formulas are right aligned.

Entering Data in a Cell



- Select the cell you wish to enter the data into and type.
- As you type, the data appears in the active cell and in the formula bar.
- A cancel mark ✕ and an enter mark ✓ appears between the name box and the formula bar. Click on the tick mark upon completion of your entry or if you wish to delete the entry click on the x.
- Alternative ways of completing the entry of data in a cell include the following:
    - Press the **Enter** key – this completes the entry and moves you down one cell below the active cell.
    - Press the **Tab** key - this completes the entry and moves you one cell to the right of the active cell.
    - Press one of the **Arrow** keys – this completes the entry and moves you one cell in the direction of the arrow.
    - Use the **mouse** to move to another cell.

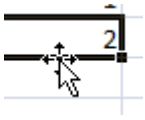
Editing a cell

- Double click on the cell you wish to edit and move the cursor to where you wish to type. Alternatively, select the cell you wish to edit then click into the formula bar and make the required change.
- To **replace** existing data in a cell, simply click on the cell and type the new data and press enter.
- To **delete** data in a cell, select the cell and press the **Delete** key on the keyboard.

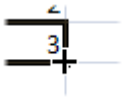
The Mouse Pointer

The shape of the mouse pointer changes shape depending on where it is positioned within a cell. Each shape carries out a different task.

- If the mouse is moved to the centre area of a cell the mouse shape will be a **white cross** - **use to select cells**



- Click into a cell and move the mouse to any part of the border of the cell. The cell changes to a **double headed arrow - use to move and drag** the contents of the cell t o a different location.

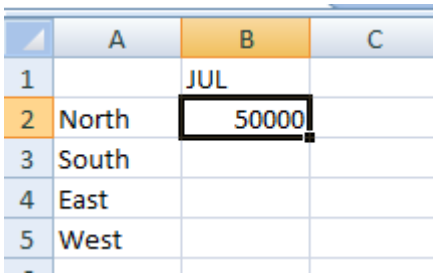


- Click into a cell and move the mouse to bottom right of the cell. The mouse pointer changes to a **+ symbol** - **use for autofill or to copy** contents of a cell.

Autofill

If you are entering a set series e.g. months of the year or days of the week you can type one of the series and then fill the rest of the series by using the autofill handle. If the entry in the cell is not part of a series the same data is filled into the other cells. If the cell contains a formula, the formula is copied into the other cells but the cell references will change (because excel uses relative cell referencing by default).

Example



	A	B	C
1		JUL	
2	North	50000	
3	South		
4	East		
5	West		

- Click into cell **B1** and type Jul. Rest your mouse to the bottom right of the cell until the autofill handle appears.
- Click and drag over the two cells to the right of cell B1. Aug should appear in cell C1 and Sep in cell D1.
- Now click into cell **B2** and type 50000 using the autofill click and drag into the two cells to the right of cell B1. 50000 should now be copied into cells C2 and D2.

Note: In Excel 2016 you can autofill in any direction

Examples of series that can be auto filled

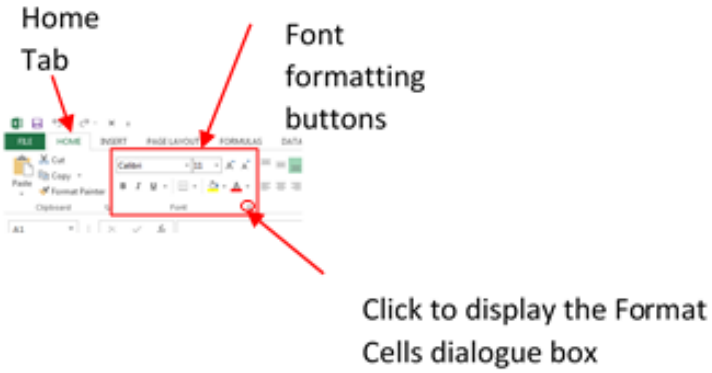
Initial selection	Extended series	Initial selection	Extended series
1, 2, 3	4, 5, 6,...	**2007, 2008**	2009, 2016, 2011,...
9:00	10:00, 11:00, 12:00,...	**1-Jan, 1-Mar**	1-May, 1-Jul, 1-Sep,...
Mon	Tue, Wed, Thu,...	**Qtr3 (or Q3 or Quarter3)**	Qtr4, Qtr1, Qtr2,...
Monday	Tuesday, Wednesday, Thursday,...	**text1, textA**	text2, textA, text3, textA,...
Jan	Feb, Mar, Apr,...	**1st Period**	2nd Period, 3rd Period,...
Jan, Apr	Jul, Oct, Jan,...	**Product 1**	Product 2, Product 3,...
Jan-07, Apr-07	Jul-07, Oct-07, Jan-08,...		
15-Jan, 15-Apr	15-Jul, 15-Oct,...		

The Home Tab – Basic Formatting

The most commonly used features of Excel are located in the Home Tab. These would include many of the formatting options.

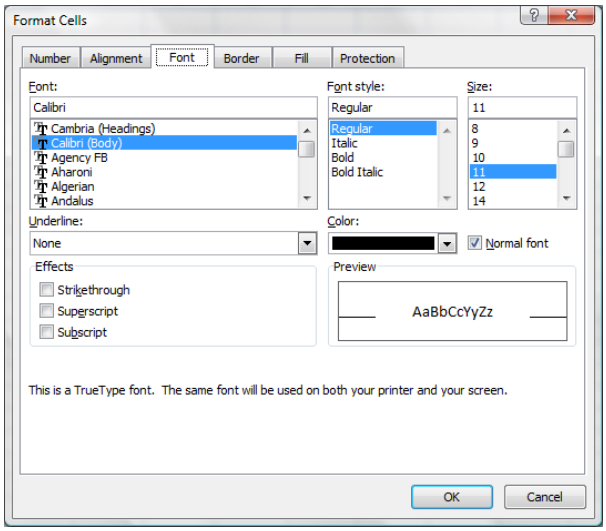
Formatting Data

Font Formatting



The majority of the options available for changing the format of the text in cells are located on the Home Tab, in the Font Group. Here you can change the selected Font Style, Size, Colour and more.

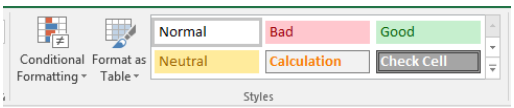
- Click and drag to select the cells to be formatted
- Click on the formatting option required.
- Resting your mouse over an option will display a screen tip detailing the function of the button.
- To see all the font formatting options available click on the small arrow on the bottom right hand corner of the group.
- The Format Cells window will open.



Using Styles

There are a large number of styles that can be used to format the cells in a worksheet. Styles can be used to help you quickly identify particular items of data.

- Select the Cells the background of which you want to format
- In the Styles Group on the Home Tab select a style



Using Format as a Table

The **Format as Table** may also contain a style that suits the data.

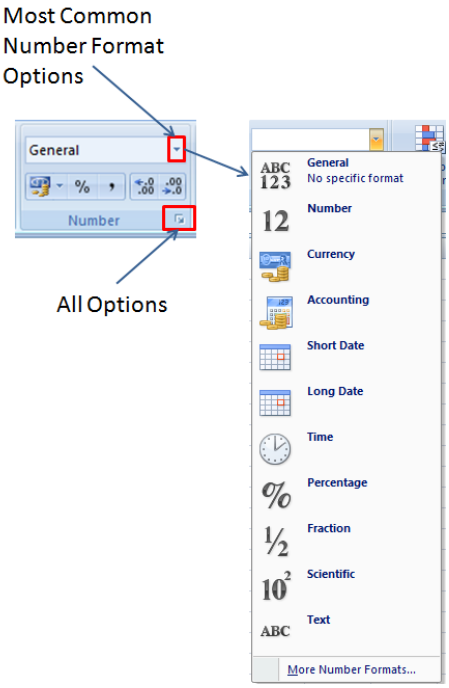
- Select the Cells you want wish to format
- In the **Styles** Group on the **Home** Tab
- Click on the **Format as a Table** button and choose a format

If you later decide that you'd prefer your data in its original form (i.e. not in a table), you can convert it back to a range of cells. Click anywhere in the table and then on the **Table Tools tab**, on the **Design** table, under the **Tools** group click on the **Convert To Range** button. Once the data is converted back to a range, the table features are no longer available.

Note: that the formatting that was applied to the table is still present.

Data Formatting

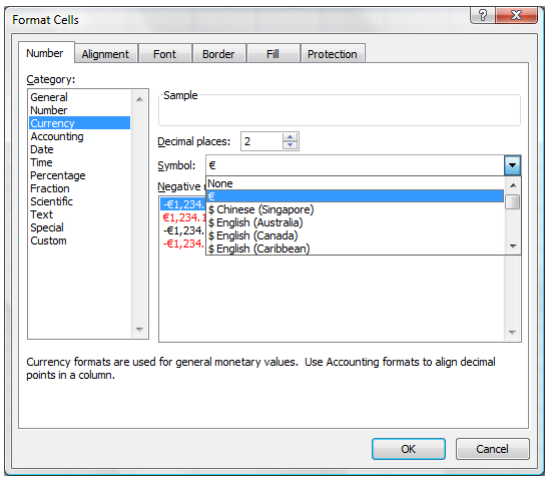
Other than text an excel workbook will also contain data such as numbers dates and currency. To differentiate between say 20% and €20 you would need to format the numbers.



- Click on the Cells to be formatted
- Click on the Arrow to the right of the word General in the Number Group on the Home Tab.
- Select your required Formatting

The default currency setting may already be € (depending on your computer's Region Settings). If you want to display a different currency symbol carry out the following:

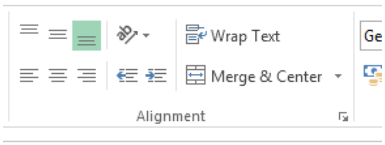
- Display the Format Cells window by clicking on the arrow on the bottom right of the Numbers Group on the Home Tab
- Click on the Number tab
- Select Currency from the list of Category's
- Change the Format as required.
- Click on OK



The default date style, percentage and so on can also be changed here.

Cell Alignment

By default text aligns left, numbers and dates right. You can change the alignment of a cell by using the commands in the Alignment Group on the Home Tab.



Text direction can also we changed here.

Wrap Text

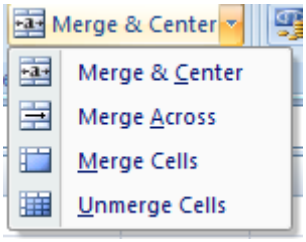
If you want text to appear on multiple lines in a cell, you can format the cell so that the text wraps automatically

- Select the cells that you want to format.
- On the Home tab, in the Alignment group, click Wrap Text.
- Data in the cell wraps to fit the column width. When you change the column width, data wrapping adjusts automatically.(If all wrapped text is not visible, you may need to increase the row height)

Note: Data in the cell wraps to fit the column width. When you change the column width, data wrapping adjusts automatically.

Merge and Centre

Joins the selected cells in to one large cell and centres the data within the cell.

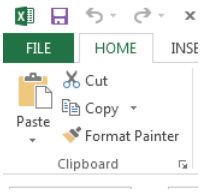


- Select two or more adjacent cells that you want to merge.
- Click on the Merge and Centre button in the Alignment Group.

Note: Make sure that the data that you want to display in the merged cell is contained in the upper-left cell of the selected range. Only the data in the upper-left cell will remain in the merged cell. **Data in all the other cells of the selected range will be deleted**.

Duplicating and Moving Data

To duplicate data means that an electronic image is taken of the original data and placed in an area known as the clipboard. The process used is called Copy & Paste. The buttons associated with these commands are located in the Clipboard Group in the Home Tab - Copy and Paste.



Using Copy and Paste

- Select the range of cells you wish to copy.
- Click on the button. A flashing border appears around the outside of the selected cells.
- Click into the cell where you want the first cell of your selection to appear.
- Click on the button. The data still remains in the original range of cells but you now have a copy of the data in the new location.
- You can continue to paste into other locations in the worksheet if you wish. When you have finished pasting pressing the **Esc** key on the keyboard to turn off the flashing border. The flashing border will turn off automatically when you carry out another task.

Using Cut and Paste

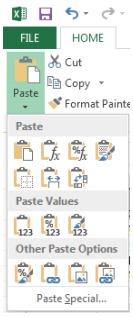
To move data from one location in a worksheet to somewhere else either within the same worksheet or to a different worksheet/workbook the process used is **Cut & Paste**.

- Select the range of cells you wish to move.
- Click on the **Cut** button. A flashing border appears around the outside of the selected cells.
- Click into the cell where you want the first cell of your selection to appear.
- Click on the **Paste** button. The data is now gone from its original location and now appears - in the new location.

Paste Options

There are a lot of options available when using paste.

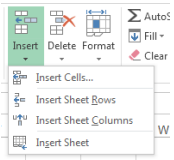
- Click on the arrow under Paste to display options such as Paste formulas, Keep source formatting, Paste Values etc.



Rows and Columns

Occasionally you will need to add extra rows or columns into the middle of your data. The buttons for doing this are located in the Cells group on the Home tab.

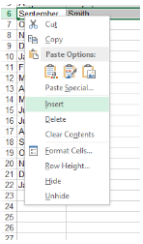
Inserting a Row



When new rows are inserted they are inserted **above** the row where the cell pointer is positioned.

- Click on the row below where you want the new row to be inserted.
- Click on the Arrow below the Insert button in the Cells
- Select **Insert Sheet Rows**
- A new row will be inserted above the one that was selected.

Alternatively,



- Select an entire row by clicking on the row heading to the left of the row
- Right click on the highlighted row and select **Insert** from the shortcut menu
- A blank row is inserted above the selected row.

Inserting a Column

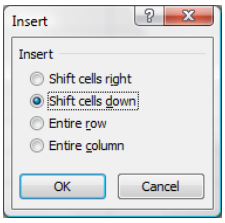
When new columns are inserted into a sheet they are inserted to the **left** of where the pointer is positioned.

- Click ion the column to the right of where you want the new column.
- Click on the Arrow below the Insert button in the Cells
- Select **Insert Sheet Columns**
- A new column will be inserted to the left of the selected column

Alternatively,

- Select an entire column by clicking on the column heading above the column
- Right click on the highlighted column and select insert.
- A blank column is inserted to the left of the selected row.

Inserting a Cell



- Right Click on a cell and select Insert
- If a single Cell is required choose from the top two options from the insert window that appears
- For a new row or column chooses the appropriate option from the bottom two options.

Note: Be careful when inserting individual cells as when existing data is moved or shifted related information may no longer by lined up as you need it. If this happens use the UNDO button to return the data to its previous location

Deleting Columns or Rows

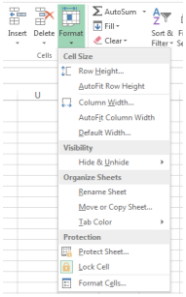
- Select the column/row to be deleted by clicking on the column/row heading
- **Right-click** and from the shortcut menu choose **Delete**.

Note: Pressing the delete key on the keyboard will delete the data in the row/column but the blank row/column will remain.

Changing Column Widths or Row Heights

Column Width

- Position the mouse to the right of the column header of the column you wish to adjust the width of.
- The mouse changes to a double arrow.
- Click and drag the mouse to the right to widen the column or to the left to make the column narrower.



To change the column width for the best fit

- Double click on the line dividing the columns instead of dragging the mouse
- The column is sized to the width of the widest entry in that column

Using the Home Tab

- Click on any cell in the Column to be adjusted by width
- Click on the Arrow below the Format button in the Cells Group on the Home Tab
- Click on AutoFit Column Width to have Excel choose the best fit
- To specify an exact width, select Column Width and in the box that displays type the exact width required.

Row Height

- Position the mouse on the top edge of the row header of row you wish to adjust the height of
- The mouse changes to a double arrow
- Click and drag the mouse to increase or reduce the height of the row.

To change the row height for the best fit

- Double click on the line dividing the rows instead of clicking and dragging the mouse.

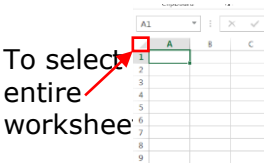
- The row is sized to the height of the highest entry in that row.

Using the Home Tab

- Click on any cell in the Row to be adjusted by height
- Click on the Arrow below the Format button in the Cells Group on the Home Tab
- Click on AutoFit Row Height to have Excel choose the best fit
- To specify an exact height, select Row Height and in the box that displays type the exact height required.

Applying a Format to the Entire Worksheet

- Click in the top right corner of the worksheet (the box above the Row 1 header and to the left of the column A header).
- Apply the required formatting. The formatting selected will then be applied to the entire worksheet.



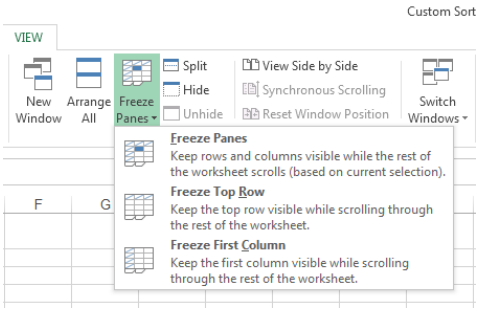
Freeze Panes

Freeze Panes are used to keep an area of a worksheet visible while you scroll to another area of the worksheet, you can lock specific rows or columns in one area by freezing the panes. **Note: You must be in Normal View to setup Freeze Panes**

On the worksheet, do one of the following:

- To lock rows, select the row **below** the row or rows that you want to keep visible when you scroll.
- To lock columns, select the column to the **right** of the column or columns that you want to keep visible when you scroll.
- To lock both rows and columns, click the cell **below** and to the **right** of the rows and columns that you want to keep visible when you scroll.

On the **View** tab, in the **Window** group, click the arrow below **Freeze Panes**



Do one of the following

- To lock **Row 1 only**, click Freeze **Top Row**.
- To lock **Column A** only, click **Freeze First** Column.
- To lock more than one row or column, or to lock both rows and columns at the same time, use **Freeze Panes**. Ensure you active the correct cell first e.g. if you wish to freeze the top 4 rows and the first 2 columns click into cell C5 – excel will freeze the rows above and the columns to the left of the active cell.

Un-Freeze Panes

- Click on to the **View** Tab, in the Windows Group and click on the arrow below Freeze Panes
- An **Unfreeze pane** option will now be available
- Click the Unfreeze Panes option

Formula

Formulas are used to perform calculations in the worksheet. All calculations are based on formulas, which link cells together. The default calculation method in Excel is automatic, if a value changes in the worksheet any formula referring to that value will automatically recalculate.

The following symbols are used to represent the 4 basic Mathematical Operators:

+	Addition
-	Subtraction
*	Multiplication
/	Division

Begin formulas in Microsoft Excel with an **=** equal sign. The equal sign tells Excel that the succeeding characters constitute a formula.

Entering a Formula

- Position the cell pointer in the cell that will contain the answer of the formula. Type an = equal sign.
- Click with the mouse on the cell to be calculated.
- Type the mathematically operator to be used in the formula.
- Click on the next cell to be calculated.
- Repeat Steps 4 & 5, as required.
- Press enter to return the result of the formula or click on the tick on the formula bar. The result of the formula is displayed in the worksheet cell. The actual formula controlling the result will be displayed in the formula bar of the worksheet.

Functions

A function is a predefined formula that operates on a value or values and returns a value or values. Many Excel functions are shorthand versions of frequently used formulas. E.g. the Sum function lets you add a series of cell values by simply selecting a range of cells.

Formula =A1+A2+A3+A4+A5+A6+A7+A8

Function =SUM(A1:A8)

As illustrated above, the sum function makes the formula a lot shorter and easier to create.

Elements of a Function

The following elements are common in all functions:

- **=** must start with an equal sign
- **function name** must have a name
- **(….)** must have arguments enclosed in brackets. There are a few exceptions e.g. =now ( )

AutoSum

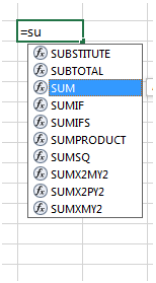
The SUM function is the most commonly used function so to make it more accessible there is an **AutoSum** button on the **Home** Tab in the **Editing group** . It is also located on the **Formulas** Tab.

Calculating sum of a range of cells

- Position the cell pointer in the cell that will contain the answer of the function. Usually this will be under a column of numbers.
- Click on the AutoSum button
- Excel will guess the range of cells to be calculated and it will insert the =SUM function. If the range of cells is not correct use the mouse to select the correct range of cells to be added.
  (use the mouse and the **Ctrl** key to select non-adjacent cells)
- Press return to display the results in the cell or click on the tick on the formula bar.

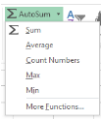
Alternatively

- Position the cell pointer in the cell that will contain the
- Type in the sum function e.g. =sum(B5:B7), remember always start with the equals.
- Excel will prompt you with a list of possible functions, you can click on the function you require or continue typing it in.
- Ensure the correct range of cells are typed
- Click on the tick in the formula bar or hit Enter on the keyboard



Inserting Functions

Click on the down arrow to the right of the AutoSum button on the Home tab, Editing Group

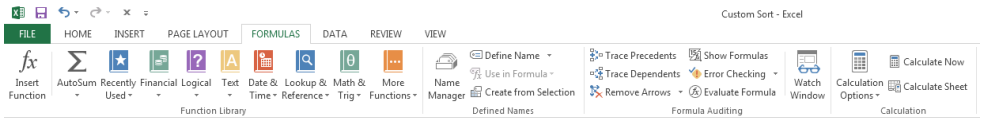


This will immediately allow you to access the functions; Average, Count, Max & Min. For all other functions select the **More Functions...** option or alternatively click on the Formulas Tab and select your function from functions library.

Average/Count/Max/Min

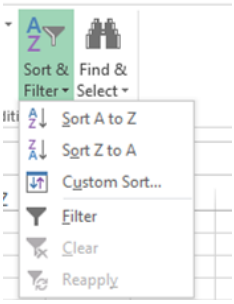
- Position the cell pointer in the cell that will contain the answer to the function. Usually this will be under a column of numbers.
- Click on the arrow to the right of the AutoSum Button
- Select the required function from the list that appears.
- Excel will guess the range of cells to be calculated and it will insert the chosen function. If the range of cells is not correct use the mouse to select the correct range of cells to be used. (use the mouse and the **Ctrl** key to select non-adjacent cells)
- Press the Return Key on the keyboard to display the result of the function.

Note in 2016 there is a huge range of different functions. Click on the **Formulas** Tab to see the function library and also more advanced features such as defining names and formula auditing.



Sorting Data

You use the Sort command to arrange the rows of a data list alphabetically or numerically in ascending or descending order, based on the contents of the fields, or columns.



Ascending will sort the lowest number, the beginning of the alphabet, or the earliest date first in the sorted range.

Descending will sort the highest number, the end of the alphabet, or the latest date first in the sorted range. Blank cells are always sorted last.

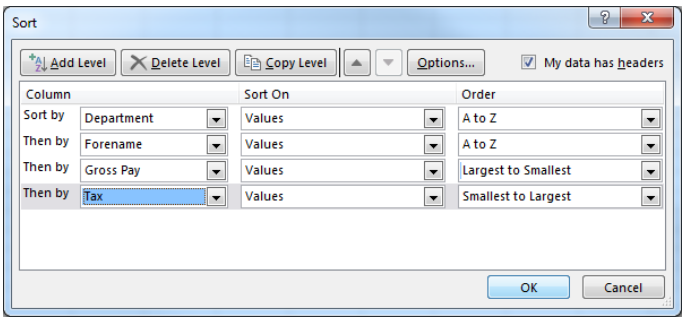
- Click into a cell within the column you wish to sort.
- Click on the **Home** Tab and then click the down arrow to right of the **Sort & Filter** command button located to the right of the screen within the Editing group.

For more detailed sorting select **Custom Sort** or from the **Data** Tab click o the **Sort** command.

Office **Excel 2016** allows the user to involve up to **64 criteria** in one sort.

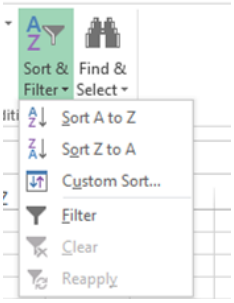
In Excel 2016 you can also sort by Values, Cell Colour, Font Colour or Cell Icon (Conditional Formatting).

- On the **Data** tab, in the **Sort & Filter group**, click Sort to display the Sort dialog box shown. Because row 6 contains headings for our data columns, we check the My Data Has Headers box. We will now select the following four criteria in the order shown:
- Sort by the Surname column so that Values (this means cell contents) are in A to Z order.
- Sort by the Forename column so that Values are in A to Z order.
- Click the Add Level button twice to give a total; of four levels
- Sort by the Gross Pay column so that Values are in order from largest to smallest.
- Sort by the Tax column so that Values are in order from largest to smallest.

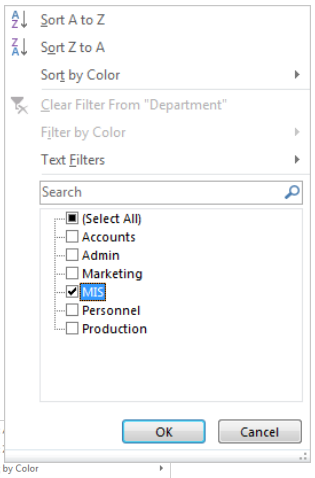


AutoFilter

The AutoFilter feature puts drop-down arrows (with menus) in the titles of each column. The menus are used to select criteria in the column so that only records that meet the specified criteria are displayed.



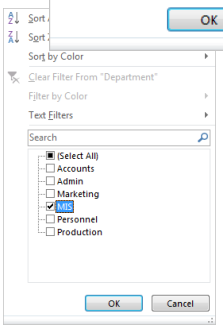
- Select a cell within the list.
- On the **Home** tab, in the **Editing group**, click **Sort & Filter**, and then click on the **Filter** command.
  An arrow appears to the right of each column label.
- **Example:** To display only the people in the MIS department, remove the arrow next to Select All, and select MIS from the list.



To display all the names in the list again, select the Department drop down arrow, and **Clear Filter from "Department".**

Create criteria

- Point to Text Filters and then click one of the comparison operators or click Custom Filter.
- For example, to filter by text that begins with a specific character, select Begins With, or to filter by text that has specific characters anywhere in the text, select Contains.
- In the Custom AutoFilter dialog box, in the box on the right, enter text or select the text value from the list. Optionally, filter by one more criteria.

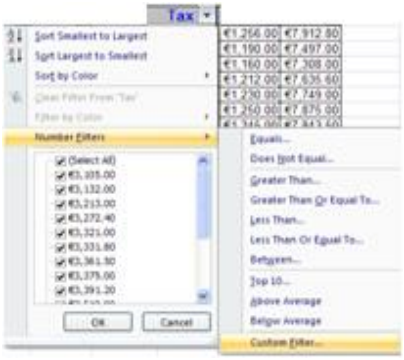


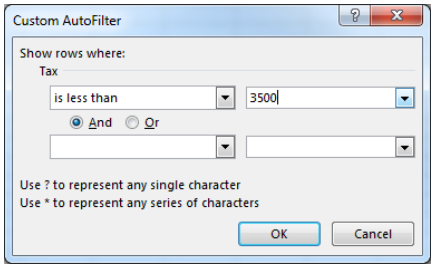
How to add one or more criteria

- To filter the table column or selection so that both criteria must be true, select **And**.
- To filter the table column or selection so that either or both criteria can be true, select **Or**.
- In the second entry, select a comparison operator, and then in the box on the right, enter text or select a text value from the list.

Example:To display a list of Employees whose Tax liability is less than 3,500

- From the Tax Column, select Number Filters and select Custom Filter.
- In the Custom AutoFilter dialog box, select the "is less than" option by clicking on the arrow under Tax to display the drop-down list.
- Type 3500 and click OK. Ten records match the criteria.
- To show all records again, select the Tax drop down arrow, and **Clear Filter from "Tax"**.



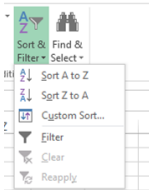


To remove criteria

- Click anywhere with the filtered list
- On the **Data** Tab in the **Sort & Filter** group click on the **Clear** button.
- The full list will be displayed again but the filter dropdown arrows are still available

To turn off the AutoFilter

- On the **Home** tab, in the **Editing group**, click **Sort & Filter**, and then deselect **Filter**.



Charts

Creating a chart in Microsoft Office Excel is quick and easy. Excel provides a variety of chart types that you can choose from when you create a chart. Excel offers Pie, Line, Bar, and Column charts to name but a few. Showing data in a chart can make it clearer, more interesting and easier to read. Charts can also help you evaluate your data and make comparisons between different values. Try the **Recommended Charts** command, new since Excel 2013, on the Insert tab to quickly create a chart that's just right for your data.

Creating a Chart

- Select the data that you want to use in the chart – remember for non-adjacent cells use the **Ctrl** key with the mouse.
- Click on to the **Insert** Tab
- In the **Chart Group** Select the Chart Type that you require.
  From the drop down list select the version of the chart you require
  or
  Click on the **Recommend Charts** button and select a chart layout that excel recommends for your data.
- The chart will display on your worksheet and the Chart Tools Tabs will display

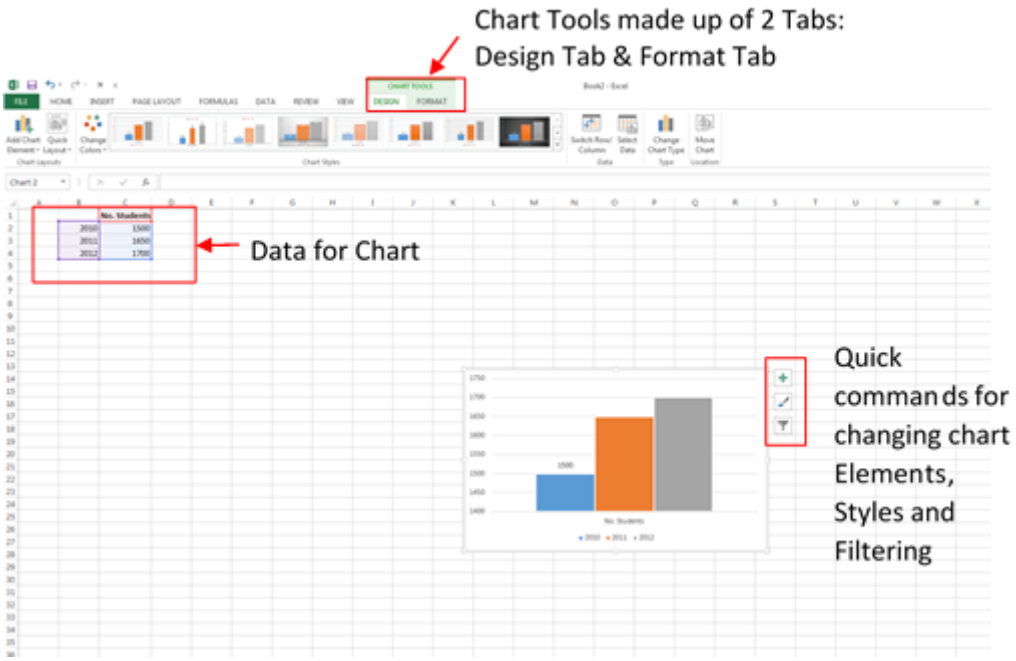


Chart Tools

- Chart Layout – Title and Legend of a chart can be repositioned using the different layout options
- Chart Styles – These can be used to change the look and colours used in a chart
- Chart Data – This can be used to change the data range or to swap the data over the axis.

- Change Chart Type – Having created a chart, if you find it does not represent your data effectively you can use the change chart type option to try a different one.
- Chart Location – Can be used to move the Chart to a separate Sheet within the Workbook

Modifying Chart Data

The data on a chart can be easily modified. Any changes made to the source data are automatically reflected in the chart. It is possible to delete a series from the chart, add a row of data or switch the order of a data series.

Deleting a Data Series

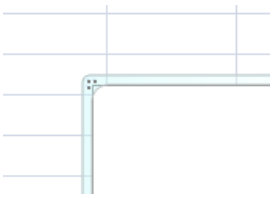
- Click on the Chart
- Data represented in the Chart will be highlighted by coloured lines
- Delete the data no longer required or adjust the lines so that they encompass only the data to be represented in the chart

Adding a Data Series

- Click on to the Chart
- The data displayed in the chart will be highlighted in the work sheet by coloured lines.
- Type the additional data beneath the highlighted data
- Click on the coloured lines and stretch them so that they include the new data.
- The Chart should update automatically.

Resizing a Chart

- Click on the chart to select it.



- A pale border will appear around the chart. At the corners on the border and half way along each length you should see a series of small dots
- When you rest your mouse on one of the series of small dots a double-headed arrow appears.
- Click and drag the edge to adjust the size of the chart as required. (Use the corner handles combined with holding the Shift key down to keep the proportions correct.)

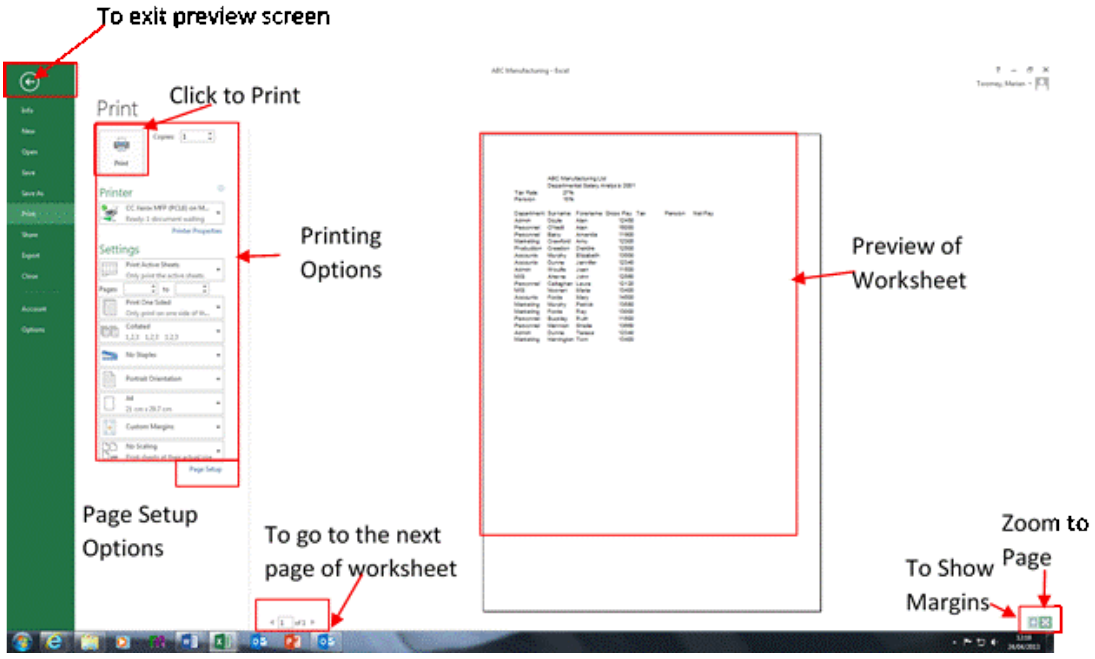
Deleting a Chart

- Click on the chart to select it.
- Press the **Delete** key on the keyboard.

Print Preview & Printing

To preview your worksheet before printing

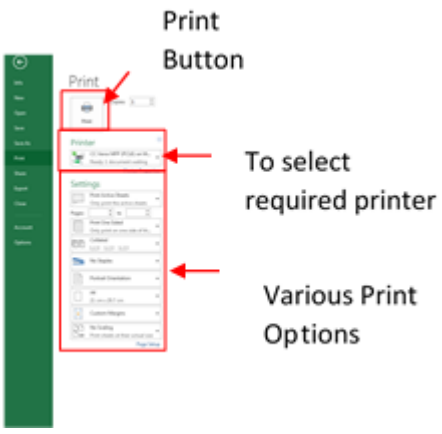
- Click on the **File** Menu and click on **Print**
- The following screen is displayed, showing a preview of your workbook to the right of the screen showing you the sheet exactly as it will print. (Working in the Page Layout as outlined on page 5 also makes it easier to anticipate how your worksheet will print out).



Print Options

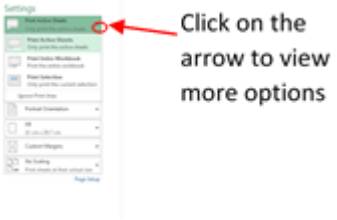
Set printing options
Do one or more of the following:

- To change the printer, click the drop-down box under **Printer**, and select the printer that you want.
- To make page setup changes, including changing page orientation, paper size, and page margins, select the options that you want under **Settings**.
- To scale the entire worksheet to fit on a single printed page, under Settings, click the option that you want in the scale options drop-down box.



Print all or part of the worksheet

- To print the active sheet or sheets, or the entire workbook, under Settings, select the option that you want.
- To print a portion of the worksheet, do the following:
  Click the Home tab to return to the worksheet, and then select the range of data that you want to print. On the File tab, click Print. Under Settings, click Print Selection.



Note: If a worksheet has a defined print area, Excel prints only that area. If you don't want to print only the defined print area, select the Ignore print area check box.

To exit out of Print/Print Preview Screen

- Just click on the Home tab (or any other required tab) or alternatively, hit the Esc key on your keyboard

Page Setup

If the sheet is not displaying exactly as you required for printing you can make some changes to its setup.

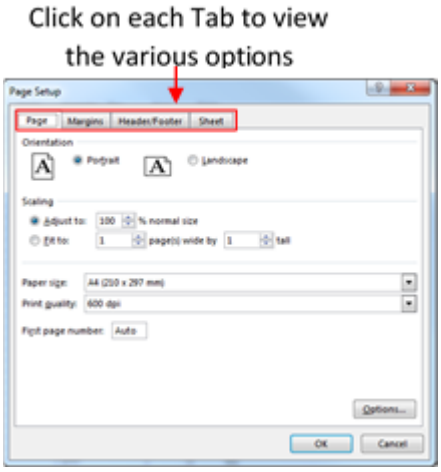
- In **Print Preview** click on the **Page Setup** Button.

Alternatively, if you are not already in the Print Preview

- Click on the **Page Layout** Tab
- Make changes to Margins, Orientation etc. using th
  Scale to Fit and Sheet Options Groups.
- You may also click on the arrow to the right of the **Page Setup** Group name to launch the **Page Setup dialogue box.**

Page Setup - Page Tab

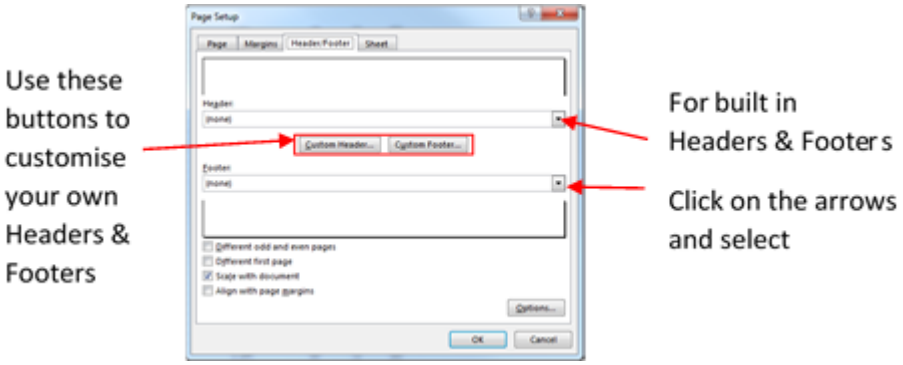
- *Orientation* Select preferred orientation.
- *Scaling*
  Adjust to: can be used to force a worksheet to fit on one page or a set number of pages regardless of the actual number of pages in the worksheet
  Fit To: choose the number of pages to fit the worksheet on.
- *Paper Size*



Page Setup - Margins Tab

- You can adjust the top, bottom, left & right margins of the worksheet in the Margins tab. When making adjustments please be aware that not all printers can print right to the edge of a page. Also, ensure you leave adequate space at the top and/or bottom if you have included headers and/or footers in the worksheet.
- *Centre on Page* allows you to centre your data horizontally or vertically on the page.

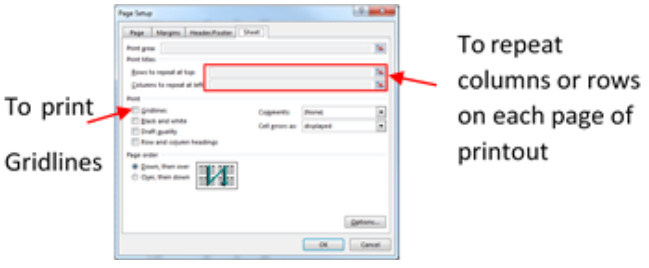
Page Setup - Header/Footer Tab



Alternatively for Headers and Footers use the method outlined on the following page.

Page Setup - Sheet Tab

- On the printed page it can to useful to have the first few column and rows visible on all pages Under the heading **Print Titles** select the Rows you want repeated at the top of each page by clicking into the box and then highlighting the required Rows using your mouse on the worksheet. (e.g. if you wish to repeat Row 1 & 2 the reference in the box should now display $1:$2)
  Repeat the same process for columns



- Under the heading **Print**, tick the **Gridlines** box, this will ensure that the gridlines will be printed out.
- When all the required changes have been made it is advisable to click on Print Preview before actually printing the worksheet.

Adding Headers and Footers in Page Layout View

- Ensure you are in the **Page Layout View** by clicking on this button located on the bottom right hand corner of the Excel Window
- Click in to the area in the top of the sheet displaying "Add Header"
- Type the text of your header/footer
- A new Headher&Footer Tools Design Tab will display
- Page Number, File name, and a number of other elements can be added to the header or footer of the document from the design tab

- If you've used the buttons e.g. Page Number the field name &[Page] will be displayed in the Header or Footer area until you click somewhere in the worksheet area.

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