

## OFF105: Microsoft Office Excel for Beginner/Intermediate Quick Reference Guide

This is intended only as a quick reference guide; for further details on these topics, please refer to the PowerPoint and archived recording of this presentation

### *Excel Fundamentals*

- All formulas are prefixed with an = sign and appear in the formula bar.
- **Single cell references** follow the ColumnNameRownumber For instance, A32 refers to the 32nd Row in Column A.
- A **range** of cells is referenced by the start and end cell reference for that range separated by a colon. For example, B3:G9 would refer to the rectangular range of cells with the top left corner being cell B3 and the bottom right corner being cell G9.
- Some functions and formulae may allow you to reference a number of cells that are not adjacent. In that case, you can **separate the cell references with a comma**. For example, =SUM(A2,A8,B5) will add the contents of cells A2, A8 and B5.
- **Calculation symbols** are as follows: +, -, \*(multiplication), / (division), ^ (exponent)
- **Order of operations:** Parenthesis items before exponential items before multiplication before division before addition before subtraction before comparisons.

### *Multiple Worksheets*

- To **insert, move, rename, or delete** a worksheet, right-click on a sheetname tab at the bottom. You can add a worksheet by right-clicking a sheet. You can also change the order of worksheets by dragging and dropping the sheet tabs.
- To **link worksheets**,
  - Method 1: Type in the formula =sheetname!cellreference For example, to use the contents of Sheet 2's cell A2 in Sheet1, just go to the cell you want it to be linked to and enter =Sheet2!A2 in the formula bar
  - Method 2: Move the cursor to the cell you want to be linked to, type =, and select the cell you want it linked from and press enter.

### *Formatting Worksheets*

There are several ways to produce these formatting results. Most can be accessed either by the toolbars, or by right clicking the group of cells you are editing and selecting 'Format Cells.'

To select entire rows or entire columns for editing, move the cursor to the row or column name (at the far left and top of the worksheet, respectively) and click on it. To select all cells, you can press Ctrl A.

- **AutoFit:** automatically expands the width or height of the column or row to fit text into cell. Bring the cursor to the label of the row (at the side) or column (at the top) you want expanded and double click
- **Number:** allows you to indicate to Excel what type of data is displayed in the cell so that it will optimize how it displays it. Right click on the cell or cell range, then 'Format Cells'. From the number tab, select the type of data (accounting, dates, text, zip codes, etc.) you are working with. This is how you automatically add symbols such as \$\$ to the cells.
- **Merge and Center:** select the cells you want to merge, then from the formatting tool bar click the icon with an 'a' and two arrows going through it. Merge and center is great for creating titles at the top of your document.

- **Background Fill:** this will give your cells a background color. The easiest way is to select your cell or cell range and go to the paint bucket icon in the formatting toolbar which will allow you to select your fill color.
- **Font:** to adjust the font, select your cell or cell range and select a font type or size on the formatting toolbar.
- **Alignment:** to adjust cell alignment, either select left, center, or right alignment from the formatting toolbar or right-click the cells and select 'Format Cells' and then select the alignment tab
- **Sort:** the sort function is a huge time saver that allows you to sort rows or columns in alphanumeric order descending or ascending. If you are sorting information across multiple rows and columns, make sure you select the entire area for sorting (or else it will only sort the one row/column you select and it will no longer match up with the other rows/columns). Go to Data | Sort and follow instructions.
- **Border:** You can edit the thickness of cell borders by selecting a cell or cell range, right-click, then select 'Format Cells' and go to the border tab.
- **Protection:** You can protect cells or your entire worksheet from viewing and editing. Select cell or cell range, right-click, then select 'Format Cells' and then go to the 'protection' tab.
- **Freeze Rows/Columns for Viewing:** Freezing a row and/or column can make spreadsheets much easier to edit, by keeping your primary headers always in view. To freeze a row, column, or cell, keep your cursor on the row/column/cell immediately BELOW the row/column/cell you want to freeze and go to Menu | Window | Freeze Panes. Go to the same place in the menu to unfreeze the panes.
- **Creating Headers/Footers:** Go to File Menu | Page Setup | Header/Footer
- **Repeat Rows/Columns:** This is the same as the 'freeze panes' concept but for printing. Go to File Menu | Page Setup | Sheet
- **Add/remove gridlines:** Menu | Page Setup | Sheet
- **Adjust margins:** Menu | Page Setup | Margins

### *Fill Function*

Fill allows you to conveniently replicate content and formulas across columns or rows. The fill function performs the essentially the same operation as the copy and paste function.

Note that **when filling or copying** a cell that contains a formula, Excel will automatically fill or paste **the formula** of that cell relative to the new cell, **rather than the value** of the cell. To paste the value, copy the cell, go to where you want to paste the value, and right click the cell to select 'Paste Special.' This will allow you to paste the value and will give you other options as well.

- **To fill** in a series, highlight cell you want copied, click in the lower right-hand corner of the cell until you see a + sign, click it and drag it to the cells you want filled. If you wanted a series and it just copied the initial cell over and over, right click the little box in the lower right-hand corner that appears immediately after you performed the fill, and indicate further what you want the program to perform.
- You can also use Edit | Fill in the main menu to get these options.

### *Relative versus Absolute References*

Relative references are the default way that Excel understands formulas. When we ask Excel to add up certain rows and columns, Excel hears us saying to it "Okay Excel, here I am on this starting (reference) cell. Now add up the contents of the 3 cells [for example] directly

above the one I'm on and give me the result." So Excel performs the operation all in relation to our starting cell.

When we copy or fill a formula, it does the same thing. Excel thinks to itself "Okay, now we're starting here on a new cell, but the user still wants me to just add up the contents of the 3 cells directly above the one we're starting on and give them the result." In other words, even though you have the specific cells listed in the formula, Excel is actually thinking about this calculation in relative terms. So if you copy and paste a cell that contains a formula, it will simply perform that formula again but relative to the new starting position.

If you do not want Excel to perform the calculation all relative to a new set of cells, you will need to indicate which cells you want to remain absolute by enclosing the cell row and/or column with a dollar sign in the formula. For instance, if I want Excel to multiply an entire column of data from B1:B26 by the contents of cell A4, I will enter into B1 the following: =B1\*\$A\$4, rather than B1\*A4. Now, once I copy or fill that formula down column B, each cell will be multiplied by A4.

- **To make an absolute reference**, type a \$ before the cell column and/or row number in the formula. Example: =(B1\*\$A\$4)
- **For a shortcut**, type in your formula, select the cell(s) you want to be the absolute reference, and press F4, which will automatically fill in the dollar signs for you.

#### *Charts and Graphs*

- **To create a chart from scratch** with all the options, use the chart wizard, Menu | Insert| Chart. It will walk you through all the steps.
- If you have some data and would like a **quick & easy default chart** to start with, keep your cursor anywhere within the data and hit F11.