



# Microsoft Excel 2016

## Uses for Microsoft Excel:

- expenses
- budgets
- data to be analyzed, summarized, or graphed

## Terminology

- worksheet = one sheet or tab within a file (like a piece of paper in a ledger)
- workbook = an entire file (like a ledger)
- cell = location of one piece of data
- row = horizontal series of cells designated by a number
- column = vertical series of cells designated by a letter
- cell reference = location of a cell described by the intersection of a column and row (letter then number) (ex: A1)
- formula = math problem
- formula bar (located at the top of the worksheet) = displays the data or formula within a selected cell

## Getting Around a Worksheet

- Move to a cell by clicking on the cell with the mouse.
- The arrow keys on the keyboard can also be used to move to a cell.

## Selecting Cells

- Select a cell by moving to it with the arrow keys or mouse.
  - A dark outline surrounds the selected cell.
  - The data or formula contained in that cell is displayed in the formula bar.
- Select multiple cells as follows.
  - A row of cells can be selected by clicking on the row number on the left side.
  - A column of cells can be selected by clicking on the column letter at the top.
  - The entire worksheet can be selected by clicking on the arrow in the top left.
- When multiple cells are selected, they are all surrounded by a dark outline and all of the cells are blue except one.

## Naming a Worksheet and Workbook

- A worksheet can be renamed by double-clicking on its name at the bottom of the screen, typing a new name, and pressing Enter on the keyboard.
- A workbook is named when the file is saved. The file name becomes the workbook name.

## Entering Data

- Enter data by typing numbers, letters, or words directly into a cell.
  - Move to the cell using the arrow keys or mouse.
  - Type the letters, numbers, or words.
- Data can also be entered by typing numbers, letters, or words in the formula bar.
  - Move to the cell using the arrow keys or mouse.
  - Click in the formula bar.
  - Type the letters, numbers, or words.

## Formatting Data

- Formatting data refers to changing the appearance of the data but not the data itself.
- To format data, first select the cell or cells to be formatted and then change the formatting.
- Use the tools in the Font group on the Home tab to change the following.
  - font
  - font size
  - emphasis (bold / italic / underlined)
  - font color
  - fill color
- Use tools in the Alignment group on the Home tab to change the text alignment.
- Resize a column by clicking on and dragging the line to the right of the column letter.
- Resize a row by clicking on and dragging the line below the row number.
- Resize a column to best fit the text within it by double-clicking on the line to the right of the column letter.
- Resize a row to best fit the text within it by double-clicking on the line below the row number.
- Format data as follows.
  - Select a cell or cells.
  - Right click on the selected cell or cells.
  - Use the options on the Number tab to format for number, currency, or date.

## Sorting

- Sorting data changes the order of the data, not the data itself.
- When sorting, rows of information are kept together.
- Sort data as follows.
  - In the Data tab, click on the Sort tool.
  - Indicate whether or not the data has headers.
  - Choose a column to Sort by.
  - Click on Add Level to sort further.

## Filtering

- Click on the Filter tool in the Data tab.
- Click on an arrow next to a column header to filter.
- Select an option to filter.

- To create a custom filter, select Number Filters and enter the required information into the dialog box which appears.
- Click on the Filter tool in the Data tab again to remove all filters.

## Formulas

- To enter a formula, select a cell for the answer and type the formula in the formula bar.
  - A formula always starts with an equals sign (=).
  - Numbers and cell references may be used within the formula.
  - Indicate multiplication with an asterisk (\*) and division with a slash (/).
  - After entering the formula, press Enter on the keyboard to display the result.
- The order of operations is followed within each formula. The order of operations dictates that functions are worked from left to right at each level starting at the top of the following list and progressing to the bottom.
  - parentheses (from the inside out)
  - exponents and roots
  - multiplication and division
  - addition and subtraction
- Use the Formulas tab as follows to enter common formulas.
  - Click on the Formulas tab.
  - Click on the arrow under the word AutoSum to display the AutoSum formula list.
  - Click on the desired formula.
  - Alter the formula as necessary.
  - Press Enter on the keyboard to display the result.

## Common Formulas

- SUM is the most common formula.
  - The result is the total of the numerical data in all of the referenced cells.
  - The cell references are input as a range (ex: B2:B5).
- AVERAGE is also a common formula.
  - The result is the total of the numerical data in all of the referenced cells divided by the number of cells within the range containing numerical data.
  - The cell references are input as a range (ex: B2:B5).

## Graphs

- Input the data to be graphed first.
- Graphs are referred to as Charts in Excel.
- Charts are added using the tools in the Charts group on the Insert tab.
- Common types of graphs include column, line, and pie.
- Insert a graph as follows.
  - Click on the Insert tab.
  - Click on the arrow next to a type of graph.
  - Choose a specific option.
  - The data is automatically displayed as a graph.

## **Saving and Printing**

- Save a workbook as follows.
  - Click on the File tab.
  - Save a workbook for the first time as follows.
    - Click on Save As.
    - Select a location, name the publication, and click on Save.
  - Save changes to a workbook by clicking on Save.
- Print a worksheet as follows.
  - Click on the File tab.
  - Click on Print.
  - Look at the preview on the right side of the screen.
  - Click on Print again.

## **Tips**

- Save often.
- Look at the formula bar to see the data or formula contained within a single cell.
- Use the number format options.
  - The currency formats make monetary amounts easier to understand at a glance.
  - The date formats make dates display appropriately within the cells.
- Sort and filter data to ease searching.
- Use the AutoSum formula list to insert a formula and think about the cells referenced.
- Do not be afraid to ask for help.