Quick Start Guide for **Excel**

**P.S** – you can use **ctrl+F to search** what you need in the If I need to column Also, if you type MATLAB into the ctrl+F search bar you can skip to the MATLAB quick start guide

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| **If I need to…** | **Use these commands/directions…** | **WHERE CAN I GET MORE HELP?** |
| Create a new workbook | Once you have opened excel you can double click on Blank Workbook and excel will load a new Blank Workbook. | <https://www.linkedin.com/learning/learning-excel-2019/create-a-new-workbook?u=2203468>  BTW- This^ links to Video tutorials teaching you the basics of excel and is extremely helpful! |
| Open an Existing workbook | When you open Excel, you can access already existing Workbooks through clicking on File in the top left (then a side window would appear) where you will find and double click on “open” this will enable you to look through your files for existing workbooks to work on/ access. | <https://www.excel-easy.com/>  this site is also useful for everything Excel ^ |
| Add another sheet to my workbook | At the bottom of your workbook, you will see Sheet1 and next to it a + sign - simply click the plus to get a new sheet (2) |  |
| Import Data | Click on Data at the top of your excel workbook -> Get data (top left) -> select from where you want to import the data -> select what type of file the data is in |  |
| **Add** Values from separate Cells | =(cell column1)(cell row1) **+** (cell column2)(cell row2)  Then press enter  Example: =C3 + C4 | <https://support.microsoft.com/en-us/office/create-a-simple-formula-in-excel-11a5f0e5-38a3-4115-85bc-f4a465f64a8a> |
| **Subtract** Values from separate Cells | =(cell column1)(cell row1) **-** (cell column2)(cell row2)  Then press enter  Example: =C3 **-** C4 | <https://support.microsoft.com/en-us/office/create-a-simple-formula-in-excel-11a5f0e5-38a3-4115-85bc-f4a465f64a8a> |
| **Multiply** Values from separate Cells | =(cell column1)(cell row1) **\*** (cell column2)(cell row2)  Then press enter  Example: =C3 **\*** C4 | <https://support.microsoft.com/en-us/office/create-a-simple-formula-in-excel-11a5f0e5-38a3-4115-85bc-f4a465f64a8a> |
| **Divide** Values from separate Cells | =(cell column1)(cell row1) **/** (cell column2)(cell row2)  Then press enter  Example: =C3**/**C4 | <https://support.microsoft.com/en-us/office/create-a-simple-formula-in-excel-11a5f0e5-38a3-4115-85bc-f4a465f64a8a> |
| Graph my data | Highlight your data-> click on insert at the top -> go to recommended charts->choose which type of graph you want to use to graph your data. | <https://www.workzone.com/blog/how-to-make-a-graph-in-excel/> |
| Excel Shortcuts | You can find loads of excel shortcuts here -> | <https://www.customguide.com/cheat-sheet/excel-cheat-sheet.pdf> |
| Set Decimal Places | You can enter a value into a cell and in the Home tab, in the Number group, click the Decrease/Increase Decimal button | <https://www.excel-easy.com/basics.html> |
| Calculate with autosum | 1. Select the cell below the numbers you want to add. 2. Select **Home** > **AutoSum** The AutoSum button . 3. Press Enter. | Access the excel help documentation for more help by typing the command you want to learn more about in the help search bar |
| Fill a series pattern of data automatically | 1. Enter the beginning of the series in two cells: such as Jan and Feb; or 2014 and 2015. 2. Select the two cells containing the series, and then drag the fill handle Fill handle across or down the cells. | more help by typing the command you want to learn more about in the help search bar |
| Export graph to pdf | 1. File (top left) 2. Export in the drop-down menu 3. Hit create pdf and name and save your workbook wherever you want in the file explorer | more help by typing the command you want to learn more about in the help search bar |
| Remove blank cells in data | 1. On the Home tab, in the Editing group, click Find & Select. 2. Click Go To Special. 3. Select Blanks and click OK. Excel selects the blank cells. 4. On the Home tab, in the Cells group, click Delete. 5. Click Delete Sheet Rows. Result: | more help by typing the command you want to learn more about in the help search bar |

Quick Start Guide for **MATLAB**

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| If I need to… | Use these commands/directions… | More info is found…. |
| Set limits for x-axis for current axis   * The same can be done for the y-axis | Type in xlim(limits) into your command window   * ylim(limits) | By clicking the fx in the top left of the command window |
| Clear everything in the command window | Type clc into the command window | Type doc followed by the command you need help with into the command window to find out more about the command  Example: doc clc |
| Clear all variables in the workspace window | Type clear into the command window  CAUTION: this will erase all set variables in the workspace | Type doc followed by the command you need help with into the command window to find out more about the command  Example: doc clear |
| Find a mean for given array values  If you have NaN values that you want to ignore in your given array use -> | Type into command window>> mean(A)  mean(A,’omitnan’) | Type doc followed by the command you need help with into the command window to find out more about the command |
| Make a list of values (ie an Array)  You can set the number of values you want from a certain range using linspace ---------------------------🡪 | Type into command window>>  X = [ 1 2 3 4 5 ]  By typing the following into the command window:  Y = linspace(lowerbound value, higherbound value, value of icrementation) | Type **doc Matrices and Arrays** into command window |
| Make a matrix | X =[1 2; 3 4; 5 6;]  Will output a matrix 1 2  3 4  5 6  The ; creates a new line / row to put values in | Type **doc** **Matrices and Arrays** into command window |
| Get a value from a matrix | In command window:  X = varNameofMatrix(rowValue,ColumnValue)  Example:  If X is the matrix above you can do  Y = X(2,1) and Y will equal the value 3 | Chapter 2 of  <https://tinyurl.com/ty2rjxb7> |
| Plot a Vertical Bar Plot | Function Format: bar(x,y) example:  yr=[l988:1994];  sle=[8 12 20 22 18 24 27];  **bar(yr,sle, ‘r’) – ‘r’ will color the bars red**  x1abe1(‘ Year ‘ )  ylabel(1Sales (Millions) 1) | Pdf Page 164 - 172  <https://tinyurl.com/ty2rjxb7> |
| Plot a different type of plot  I.e. Horizontal Bar plot----------------------------------🡪  Stairs plot------------------------------------------------🡪  Stem plot------------------------------------------------🡪 | **bar(xaxis,yaxis)**  **stairs(xaxis,yaxis)**  **stem(xaxis,yaxis)** | Pdf Page 164 - 172  <https://tinyurl.com/ty2rjxb7> |
| Plot a pie chart with given data | x = [ 20 20 20 20 20]  pie(x) <- should have 5 equal slices | Pdf Page **165**  <https://tinyurl.com/ty2rjxb7> |
| Plot a histogram | Command is >>**hist(y)**  You can also do **hist(y,3)** to divide the histogram into 3 equally spaced subranges | Pdf Page **167**  <https://tinyurl.com/ty2rjxb7> |
| Label axis | Command is>> xlabel(‘x axis’)  You can do the same for y -> ylabel(‘ blah ‘ ) | Type *doc xlabel* in command window |
| Import Data | Use function readtable in command window or scriptfile  Ie readtable(‘filename’); | Type *doc readtable* into command window  Or find more info here:  <https://tinyurl.com/xk3cxc35> |
| Convert Array to table | In command window/ script file type:  Arraytotable(*arrayName*) | Type *doc arraytotable* into command window |
| Remove Variable names from tables | Use Function **removevars(tablename,{variableToRemove})**in commandwindow/ scriptfile | Type *doc removevars* into command window |
| Convert Columns from Tables to Arrays (column vector) | Use .  Example hw = TableName.VariableName (column header) this assign hw all values from VariableName column into a column vector xby1 | More info here: <https://tinyurl.com/2ut756ha> |
| Insert and place Variables into Tables | x = **movevars**(tableName,'VariabletoInsert','After',1)  the 1 is indicating where to place the variable name here it is being placed after the first 1 column so it will be column 2 | Type *doc movevars* into command window |
| Store Date | datetime(year value, month value , day value)  you can continue to add hour value minute value and second value for more precise time | Type *doc datetime* into command window |
| Get length of time between dates | Use command between(intital date, final date)  This will return the value of time between both dates in correct format of time ie ( months/ hours days etc) | Type *doc between* into command window  <https://tinyurl.com/267wu67t> |
| Find roots of polynomial | Use command roots(x)  X being the the variable name of the stored polynomial | Doc roots |
| Create a polynomial fit line | Use command polyval(p,x) <- p being the polyfit y value data and x being the domain of x values | Doc polyval |
| Create a good fit for your polynomial data | Use command polyfit(x,y,n) where x and y are your data from axis x and y and n is the degree of the polynomial | Doc polyfit |