

Introduction to MS Excel

Storyboard

Overview

Course Title:	Introduction to MS Excel
Learning objective:	By the end of this course learners will be able to utilize manual data entry, SUM function and manual formulas, and good organizational practice (defined in course) given necessary data values to create a dynamic single sheet workbook in MS Excel without error.
Description Text	A brief introduction to Microsoft Excel, culminating in developing a simple budget sheet.
Units	Workbook Components and Data Entry Entering Formulas Organizing your Sheet Creating a Simple Budget Sheet
Client:	Rachel Huesman and co-workers
Instructional Designer:	Michael Huesman

Units

Nr	Name	Content
1	Workbook Components and Data Entry	Guide through opening Excel and components on screen. Screenshot with clickable regions
2	Entering Formulas	Overview of SUM function and manually entered formulas. Table and video with quiz
3	Organizing your Sheet	Organization principles overview. Text and screen capture with clickable regions. Card sort practice. .xlsx download of an example of organized budget sheet
4	Creating a Simple Budget Sheet	Challenge to create own budget sheet. FAQ table, sample data values, .xlsx downloads of budget sheet with and without formulas.

Style Guide

Logo	newLogo.png (personal logo)
Cover Photo	Stock-image.jpg
Custom colours	Title: #40483c Body: #c8a47e Accent: #7f9592 Screen capture icons: #a26369 Text on dark: #f3f5ef Text on light: #313537
Fonts	Heading: Roboto Slab Body: Roboto
Additional Notes	Free navigation, exploration over presentation, self-led but with available review. Multiple presentations (picture, video, text, card sort, creation) and entry points (create after viewing lesson, utilize screen captures for inspiration, download files for assistance)
Templates	N/A

1: A primer to Microsoft Excel, part 1: Workbook Components and Data Entry

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.1	BLOCK TYPE	Image & Text
NOTES Image on left		CONTENT Image: Spreadsheet with numerical entries Text: The Beginning (heading) (paragraph) Microsoft Excel is one of the most frequently utilized programs in the office environment for organizing data. It is a very rich program, so it can seem like a lot to learn. Partially, that is correct. There are a lot of tools and capabilities. However, Excel works off of a few fundamentals, and you can do so much without becoming an expert in the entire program. This lesson will cover the main components of the MS Excel screen: workbooks, sheets, formula bar, and cells. It will also discuss how to enter numeric and text data.	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.2	BLOCK TYPE	Divider
NOTES Center aligned		CONTENT Button labelled "BEGIN"	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.3	BLOCK TYPE	Image & Text
NOTES Image on left		CONTENT Image: Screen capture of Excel opening screen Text: (paragraph) When you open Excel, the first screen you visit has several choices. There are many preloaded templates to work from. For this course, we will focus on building things from scratch, so we will not be utilizing any templates. We will select "Blank workbook". In Excel, you directly interact with sheets. Sheets are where you input data and work with that data. The workbook is a collection of those sheets.	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.4	BLOCK TYPE	Divider
NOTES Center aligned		CONTENT Button labelled "CONTINUE"	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.5	BLOCK TYPE	Text
NOTES Left-aligned		CONTENT Text: Inside the Workbook (heading) (paragraph) Click on the plus signs on the image below to explore the components.	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.6	BLOCK TYPE	Labelled graphic
NOTES		CONTENT	
		<p>Screen capture of blank Excel sheet</p> <p>Icons on: Cell A1</p> <ul style="list-style-type: none"> Text: The cell. Each sheet is comprised of cells. The cell is where you will enter all raw data/information. They are also where you will enter formulas to ask for certain values such as the sum or average of a set of numbers. Each cell has a reference or identifier. They are comprised of the column letter first followed immediately by the row number. For instance, the selected cell is A1 <p>Sheet 1 tab</p> <ul style="list-style-type: none"> Text: Sheet tab. Everything between here and the formulas bar is the sheet. You may have more than one sheet in your workbook. You may also rename the sheets. The collection of sheets (one or more) is the workbook. <p>+ by Sheet tab</p> <ul style="list-style-type: none"> Text: For the purposes of this lesson we will be utilizing a single sheet in our workbook, but it is often useful, if not required, to separate information into multiple sheets. If you have multiple sheets, it is a good practice to rename each. That way there is less confusion about where information is located. <p>Formula bar</p> <ul style="list-style-type: none"> Text: Once a cell is selected, this is where you enter or edit the information that is stored inside of the cell. That information can be a variety of things including: numeric data, text data, and formulas. <p>Middle of menus</p> <ul style="list-style-type: none"> Text: Menu Area. There are a lot of options in this region. As you become more proficient, you will utilize this area more and more. For now, we will not utilize most of these tools. Most of the tools we will use for this lesson will be around text editing such as bolding text, text alignment, and adding borders. 	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.7	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "CONTINUE"	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.8	BLOCK TYPE	Text
NOTES Left-align		CONTENT Text: Manual Data Entry (heading) (paragraph) Watch the following video to see how to enter data directly into your sheet.	

Lesson		Workbook Components and Data Entry	
BLOCK ID	1.9	BLOCK TYPE	Video
NOTES Closed captions available		CONTENT Screencast of sheet overview and entering data in Excel. Script: There are several ways to gather and input data into a workbook. The method we will focus on now is simply entering the data, one cell at a time. We will later discuss organizing that information. Whether the entries are numeric or text, they are entered the same way. The biggest thing to keep in mind is to make certain you are entering the information in the intended cell. If you input it into the incorrect cell, it can easily be fixed. But once we begin formulas, if the data is in incorrect locations, the results may not be the ones desired. In order to select the cell you want to enter the data in, simply click on it. You may also use the enter key and arrow buttons to move around. You can begin typing and it will populate the cell with your information. Say you make a mistake or have some revised data and you want to edit the information already in a cell. You must click the cell, then edit the information in the formula bar. Failing to do so will result in you overwriting everything already in the cell. Now you practice. Open Excel and enter different words and numbers in a variety of cells. Feel free to play with some of the tools in the top to see what happens. Make certain you have selected at least one cell with data in it when you do. Of particular interest at this point are: the borders button, the font editing buttons such as font color, bold, italic, underline, font style, text align, and the increase and decrease decimal buttons located here under this drop down menu.	

2: A primer to Microsoft Excel, part 2: Entering Formulas

Lesson		Entering formulas	
BLOCK ID	2.1	BLOCK TYPE	Image & Text
NOTES Image on left		CONTENT Image: Computer monitor with code Text: Making it Dynamic (heading) (paragraph) There are a large variety of functions in Excel that do many different things. If there isn't a predefined function for what you want to do, you can enter your own. For our purposes we will focus on using formulas to allow us to calculate values that will update when the data changes. Entering functions is done the same way, so as your knowledge of Excel develops, you can utilize what you learn today with more complex ideas.	

Lesson		Entering formulas	
BLOCK ID	2.2	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "BEGIN"	

Lesson		Entering formulas	
BLOCK ID	2.3	BLOCK TYPE	Text
NOTES Left-align		CONTENT Text: Functions We Will be Using (heading)	

Lesson		Entering formulas	
BLOCK ID	2.4	BLOCK TYPE	Text
NOTES Two column		CONTENT Column 1: To add: The SUM function adds all of the entries in a selected set. Column 2: To subtract: We will have to manually enter this. There is no DIFFERENCE function in Excel. There are many workarounds to issues like this. In this case, one workaround would be to multiply all of the values, except the first one, by -1 then utilize the sum function to add them all.	

Lesson		Entering formulas	
BLOCK ID	2.5	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "CONTINUE"	

Lesson		Entering formulas	
BLOCK ID	2.6	BLOCK TYPE	Video
NOTES		CONTENT	
<p>Closed captions available. Review questions integrated in video.</p>		<p>Video: Screen cast of Excel sheet while entering formulas</p> <p>Script: Now let's go on to utilizing the formula bar to enter functions. Anytime you want Excel to calculate a value for you, you will begin your entry with an equal sign. Then you can enter any formula or functions you want after that and Excel will perform those things. Right now we will focus on adding and subtracting numbers. Let's say you are working for a large corporation and there are 2 sales teams. One has been around for awhile and thinks they are way better than the newer team. To decide who wins, they keep track of the money they bring in that week. Each team has 10 employees. If the older team wins, the newer team has to do all of their paperwork. If the newer team wins, they get the older teams offices. To sweeten the deal both teams agree that if the other team wins by more than \$2000, each will take on additional tasks. If the newer team does it, then the older employees must also decorate the offices and deliver doughnuts to each, every morning that week. If the older team does it, the newer employees must also do all of their errands that week. You are known for your data skills in Excel, so they ask you to take their numbers at the end of the week and decide on the result. You have already entered the sales numbers for each employee on each team. First you decide to use the sum function to add each column and report the value. Then you manually enter a formula to see if the winning team gets the bonus. So, here is your data. The newer team is in column H. Those are their sales numbers. The older team is in column L. So then, you decide to get the sum at the bottom of the column. So, as we stated, you have to start with the equal sign. The function is sum, and you open a parenthesis to tell it what to take the sum of. Now, you could list each and every number with a comma between it, and it'll add them up. But, we want to keep it dynamic. That way, if any of the numbers change, we can have it automatically update. So, now to tell it to add the numbers, but not by the number itself but instead its position, we're just going to click and drag to select all of the cells we want to add up. And, you'll notice it says we are going to add H1 through H10 rather than a list of numbers. Close the parentheses and hit enter. It has calculated the total. Then we're going to do the same thing over here in L12. Start with an equal. It's sum. Open your parentheses. Select the range of numbers you want to add. Close your parentheses and hit enter. So, the newer employees have it. The question is, do they also get their offices decorated and free doughnuts for a week. So, in order to subtract these, there is no difference formula. As was mentioned in the lesson, there are frequently workarounds so that you don't have to do a bunch of numbers manually. But since there's only two numbers, we're going to go ahead and do it that way. But we still want it to be dynamic, because if we change a number here, then the sum will change. But, then we also want it to subtract and change as well. So, right here in O14, right next to the bonus question I'm going to hit equals, and then click on the first number I want to subtract, hit minus, and then click on the second number I want to subtract. And again, notice it's subtracting the numbers from two locations rather than the numbers themselves. So, we hit enter, and it calculates it for us. So, it does look like not only does the newer team get the office, they also get a decorated office and free doughnuts.</p>	

3: A primer to Microsoft Excel, part 3: Organizing your Sheet

Lesson		Organizing your Sheet	
BLOCK ID	3.1	BLOCK TYPE	Image & Text
NOTES Image on left		CONTENT Image: Spreadsheet with notebook, ruler, and pencil. Text: Organizing your Data (heading) (paragraph) The next thing to consider is organizing your data. It is possible to put numbers in random places and still accomplish what you want, but it will become much more challenging to make certain your formulas incorporate all of the required data as well as be able to see what belongs together.	

Lesson		Organizing your Sheet	
BLOCK ID	3.2	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "BEGIN"	

Lesson		Organizing your Sheet	
BLOCK ID	3.3	BLOCK TYPE	Text
NOTES Left-align		CONTENT Organizing Data (heading) (paragraph) This will be the last informational lesson before you create your budget sheet in Excel. Thus far, we have discussed how to enter data and how to get Excel to calculate values for you in a way that will update when you add or change the values you put in. Now we will look at some possibilities in organizing how you put the data in so that your sheet can be read and modified easily.	

Lesson		Organizing your Sheet	
BLOCK ID	3.4	BLOCK TYPE	Text
NOTES Left-align		CONTENT (paragraph) It is important to organize your data so that you know what belongs together and have it flow naturally so that you can efficiently and correctly use your spreadsheets. Explore the image below in order to see some ideas how to successful organize your information.	

Lesson		Organizing your Sheet	
BLOCK ID	3.5	BLOCK TYPE	Labelled Graphic
NOTES		CONTENT	
		<p>Screen capture of organized budge sheet in Excel:</p> <p>Icons on:</p> <p>Balance from last month:</p> <ul style="list-style-type: none"> Text: Keep it a natural flow. As you read top to bottom, left to right it should make logical sense. In this case, you have leftover money/debt, money coming in, money going out, and the result. As you grow in your skills, one natural step is to have each sheet be a month and for the total on one sheet to populate the balance from last month cell on the next sheet. <p>Expenditures title:</p> <ul style="list-style-type: none"> Text: Title everything so that anyone can follow along with what all of the information is telling them. You should title everything, even if you are the only person utilizing it, in order to prevent mistakes. <p>Middle of Expenditures table:</p> <ul style="list-style-type: none"> Text: Mark your territory. Mark of space for your topics. If you ever print your sheet, you can print the gridlines, but the data starts blending together. You can utilize shading, borders, spacing, or a combination of all of them. <p>Bottom of Income and Expenditures tables:</p> <ul style="list-style-type: none"> Text: Length of lists. Make certain you leave room to grow. Have more rows than you need. Leave room to add more rows if you surprise yourself and need more than that. Since you are using functions to keep the sheet dynamic, it is easy to expand as needed. <p>By total income and total expenditures box:</p> <ul style="list-style-type: none"> Text: Group things that go together. In this case, you could have put total income under the income column and the same for expenditures. It made more sense to have them together in order to compare the values directly as well as allowing for room to grow the columns, if needed. <p>By total box:</p> <ul style="list-style-type: none"> Text: Deliverable. In the end you should have something obvious that is the final result. It could end up being a graph, summary number, or something else. 	

Lesson		Organizing your Sheet	
BLOCK ID	3.6	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "CONTINUE"	

Lesson		Organizing your Sheet	
BLOCK ID	3.7	BLOCK TYPE	Text
NOTES Left-align		CONTENT Practice (heading) (paragraph) Decide if the statement on the card is an example of good or bad organizational practice, then place it on the corresponding stack.	

Lesson		Organizing your Sheet	
BLOCK ID	3.8	BLOCK TYPE	Sorting Activity
NOTES 2 categories		CONTENT Good Organizational Practice: <ul style="list-style-type: none">• Leave room to grow• Group items that go together• Mark sections with shading, space, and/or borders to separate them from others.• Have a final deliverable that is easy to identify.• Organize data so it flows naturally.• Label Everything so that it is obvious what it is and how the sheet is organized Bad Organizational Practice: <ul style="list-style-type: none">• Use space efficiently by putting everything as close together as possible.• Save ink by not using borders or shading. They are not needed.• Labels only take up space, if you're the only one using it, so don't use them.	

Lesson		Organizing your Sheet	
BLOCK ID	3.9	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "CONTINUE"	

Lesson		Organizing your Sheet	
BLOCK ID	3.10	BLOCK TYPE	Text
NOTES Left-align		CONTENT Now Make Your Own (header) (paragraph) If you are having difficulties or want some inspiration, you may download the file that was used in the screenshot above.	

Lesson		Organizing your Sheet	
BLOCK ID	3.11	BLOCK TYPE	Attachment
NOTES		CONTENT	
		Budget_noFormulas.xlsx	

4: A primer to Microsoft Excel, part 4: Creating a Simple Budget Sheet

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.1	BLOCK TYPE	Image and Text
NOTES Image on left		CONTENT Image: Yes You Can spelled out in Scrabble Tiles Text: Your Turn (heading) (paragraph) Create a budget sheet in Microsoft Excel. It is best if you can create it around your own needs. Common issues are addressed in the next table. There is nothing to submit. Make certain you are comfortable with the principles and practices in this course prior to moving forward to the next course.	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.2	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "BEGIN"	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.3	BLOCK TYPE	Text
NOTES Left-align		CONTENT Refresher (heading)	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.4	BLOCK TYPE	Image
NOTES		CONTENT	
		Microsoft Excel Budget Infographic (Microsoft Excel Budget Activity infographic.png)	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.5	BLOCK TYPE	Attachment
NOTES		CONTENT	
		Microsoft Excel Budget Activity infographic.png	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.6	BLOCK TYPE	Text
NOTES Left-align		CONTENT FAQ	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.7	BLOCK TYPE	Text
NOTES Table with 2 columns		CONTENT Issue: <ul style="list-style-type: none">• I don't have access to Excel.• I don't have any data to enter in my table.• I am having difficulty getting started or creating some aspect of my sheet.• I have reviewed the lessons and am still having difficulty. Response: <ul style="list-style-type: none">• Google Sheets has all of the same features we used in our lessons and is free to those with a Google account.• You don't need data to enter at this point, but it is good to have to test your functions/formulas as well as to see the sheet in action. You can make them up. If you are having difficulty coming up with numbers, I have included a table below this chart.• Review the previous lessons in this course.• I have attached two files below the chart of numbers. One is an Excel sheet without formulas and the other is a completed sheet with formulas.	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.8	BLOCK TYPE	Divider
NOTES Center-align		CONTENT Button labelled "SUPPORT ITEMS"	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.9	BLOCK TYPE	Text
NOTES		CONTENT	
3 column table. Columns 2 and 3 split cells into 3.		<p>Balance from last month</p> <ul style="list-style-type: none"> • 450 <p>Income</p> <ul style="list-style-type: none"> • Date, Source, Amt • 01/01, Work, 750 • 01/15, Work, 750 <p>Expenditures</p> <ul style="list-style-type: none"> • Date, Source, Amt • 01/01, Rent, 400 • 01/01, Cell Phone, 100 • 01/05, Car, 350 • 01/18, Student Loans, 510 • 01/31, Credit Card, 135 	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.10	BLOCK TYPE	Attachment
NOTES		CONTENT	
		Budget_noFormulas.xlsx	

Lesson		Creating a Simple Budget Sheet	
BLOCK ID	4.11	BLOCK TYPE	Attachment
NOTES		CONTENT	
		Budget_Formulas.xlsx	