

Intermediate Microsoft Excel

Class learning objectives

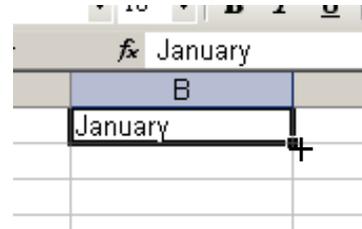
By the end of class, students should be able to perform the following tasks in Microsoft Word:

- 1. Completing a Series**
- 2. Review of Excel Basics**
 - **Create a Basic Spreadsheet**
 - **Basic Formatting**
 - **Sums**
 - **Averages**
- 3. More Formatting**
 - **Freeze Panes**
 - **Understand the Order of Operations**
- 4. Making a Budget**
 - **Copy Formulas**
 - **Apply the SUM Function**
 - **Apply the Negative Numbers Cell Style**
 - **Add Comments to Cells**
- 5. Creating Charts and Graphs**
 - **Turn Your Spreadsheet Into a Chart or Graph**
 - **Use Excel's Options for Your Charts**
- 6. Getting Help**

Completing a Series

If you are entering information into Excel that is part of a series (such as the months of the year), Excel will extend the series for you.

- Type January in cell B1
- Place your pointer over the bottom right corner of that cell. When you do this your pointer will look like a plus sign.
- Click and drag across enough cells to finish your series. This is a process called AutoFill.
- This will work with text series (Monday, Tuesday, etc) or number series (3,6,9,12, etc). If Excel cannot determine what the series is then it will just copy whatever is in the first cell and paste it in all the cells in your series.



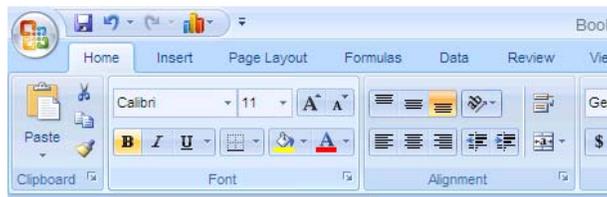
Review of Excel Basics

Let's create the following spreadsheet just to review our basic Excel skills such as entering data, navigating around, editing data, etc.

A screenshot of an Excel spreadsheet titled 'Book1 - Microsoft Excel'. The spreadsheet contains a table with 6 rows and 8 columns (A-H). The first row (row 1) has 'January' in B1, 'February' in C1, 'March' in D1, and 'April' in E1. The following rows (rows 2-5) contain expense categories and their values for each month. Row 6 is a 'Totals' row. The data is as follows:

	A	B	C	D	E	F	G	H
1		January	February	March	April			
2	Food	200	150	250	225			
3	Utilities	75	100	125	90			
4	Entertainment	100	120	75	150			
5	Rent	700	700	700	700			
6	Totals							

Take a little bit of time to practice basic formatting (bold, italics, underlining, and centering). You can format data in a cell, or a range of cells, to customize its appearance. Simply select the cells you want to format and then locate your formatting toolbar, which looks similar to this:



Then click on the button that corresponds to the desired effect. For example, select your cells and then click on the "B" button to make the data in those cells bold.

Reviewing Some Basic Formulas.

The formula for adding a list of numbers in one column or in one row is:

=SUM(Beginning cell:Ending cell)

So if you wanted to add all the scores in column B, you would click on cell B6 and type in: =SUM(B2:B5)

Autosum (Σ)

The **AutoSum** button is located in the far upper right side of the **Home** tab and looks like this (Σ). You can also find it on the **Formulas** tab in the **Function Library** group. **AutoSum** looks for numbers above the active cell and adds those numbers together. If there are no numbers above, Excel looks for numbers to the left of the active cell. So click on cell C6 and hit the **AutoSum** button and then hit **Enter**. Excel will add all the cells above it together.

Renaming Sheets

Let's change the name of our sheet to **Monthly Budgets**.

Either:

1. Choose a sheet from the sheet tab located in the bottom left corner of the spreadsheet.
2. Choose **Format** from the **Cells** group on the **Home** tab and click on **rename sheet**.
-Or, right click on the sheet tab, then choose **rename** from the shortcut menu.
-Or, Double click on the sheet tab.
Any of these actions will cause the name in the sheet tab to be highlighted.
3. Type in the new name and hit the enter key on your keyboard.

More Formatting

Freezing Panes

You may have certain cells that you want to make visible at all times. You can freeze these panes so that they do not scroll with the rest of the spreadsheet.

1. Click on the row or column just past the panes you want to freeze.
2. Click on **View** on the tab and select **freeze panes**.

To unfreeze the panes, simply click on **View** and select **unfreeze panes**.

Order of Operations

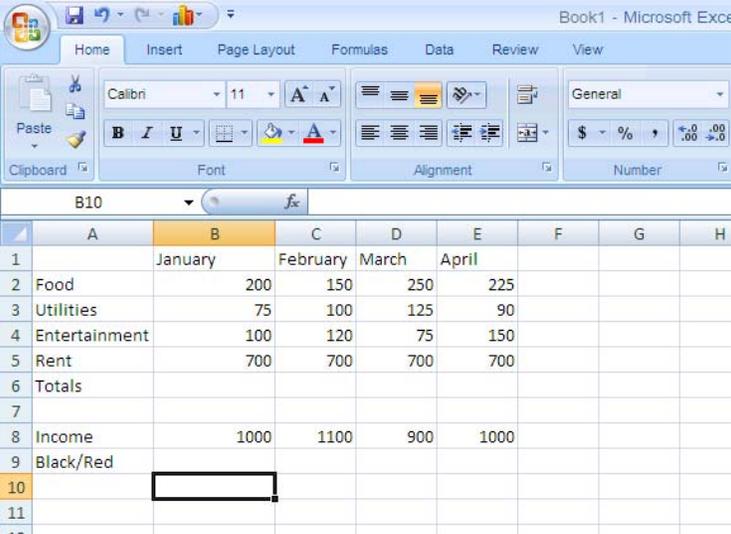
When processing a complicated mathematical formula, Excel will perform mathematical operations in a particular order. This is known as the “order of operations.” The phrase “**Please Excuse My Dear Aunt Sally**” can help you to remember the correct order:

Parentheses, **E**xponents, **M**ultiplication, **D**ivision, **A**ddition, **S**ubtraction.

For example, the computation $=(2000+400)*2^3-5$ will yield the result 19195. Excel will first add $2000+400$ because that is within the parentheses, then it will cube 2, then multiply $2400*2^3$, and finally subtract 5 from that product to get the result.

Using Excel to Make Budgets

A very popular application of Excel that utilizes the SUM function is making budgets. Let's look at our spreadsheet again and make a few additions.



	A	B	C	D	E	F	G	H
1		January	February	March	April			
2	Food	200	150	250	225			
3	Utilities	75	100	125	90			
4	Entertainment	100	120	75	150			
5	Rent	700	700	700	700			
6	Totals							
7								
8	Income	1000	1100	900	1000			
9	Black/Red							
10								
11								

1. Make the above additions to your spreadsheet. Be sure that cells B6:E6 are set to sum the values of the cells above them.
2. In cell B9, type **=B8-B6**
3. With cell B9 still active, place your cursor on the square in the bottom right corner of the cell. You will see it change into a skinny black cross. Hold down your left mouse button and drag your cursor over C9:E9. **Notice that Excel has copied the formula across the row and applied it to its corresponding column!** Whenever you have a formula in a cell, Excel will copy that rather than the data, and apply the formula to those new cells.
4. Select the range B9:E9.
5. From the Home tab, click on **Cell Styles**, and then click on **New Cell Style**.

6. Click on **Format** and then **Numbers**. In the center of the dialog box that opens you will see **Negative numbers**. Click the second option to make negative numbers red, and then click **OK**.
7. Any negative numbers in row 9 should now show up in red. This highlights any months where our expenses were greater than our earnings. Because the SUM and AutoSum functions add values of cells using a formula, our **Black/Red** values will change as the expense values change.

Adding Comments to Cells

You can easily add comments to cells that will only appear when you mouse over the cell. Simply right click on the cell and select Insert Comment. A blank yellow note will appear. Type in your comment, and then close the comment by clicking on the desktop on a spot away from the yellow note. You will notice that the cell with the comment now has a small red triangle in the corner. To read the comment, simply rest your mouse on the cell.

Creating Charts and Graphs

Excel makes it easy to turn your data into colorful charts and graphs.

To create a chart:

1. Select the range A1:E5.
2. On the **Insert** tab in the **Charts** group, you will see the different chart types that you can choose from.
3. Select the type of chart that you would like to create. Remember that not all chart types are appropriate in all situations. Because a column graph would allow you to examine many trends at once, it will work particularly well here.

The screenshot shows the Microsoft Excel interface with the 'Insert' tab selected. The 'Charts' group is visible, showing various chart options like Column, Line, Pie, Bar, Area, Scatter, and Other Charts. Below the ribbon, a data table is displayed with the following content:

	A	B	C	D	E	F	G	H
1		January	February	March	April			
2	Food		200	150	250	225		
3	Utilities		75	100	125	90		
4	Entertainment		100	120	75	150		
5	Rent		700	700	700	700		
6	Totals							
7								

4. Next, place your cursor over the chart and right click. This will let you enter names for the items in your legend.

5. Below are some highlights of what is available. Click on the **Layout** tab to see the following options:
 - **Titles** - you can name your chart as well as name the x and y axis of the chart. (The x axis is horizontal and the y axis is vertical.)
 - **Axes** – from here you can choose not to display either axis.
 - **Gridlines** – allows you to select how many gridlines you want on your chart. Remember that having too many can sometimes be distracting.
 - **Legend** – This will allow you to turn the legend on or off. If you decide to leave it on, it will also let you select its placement.
 - **Data Labels** – you can choose to have labels applied to your chart. Be aware that if there are several labels they may overlap and prove hard to read.
 - **Data Table** – This allows you to display the data table right next to the chart. This is helpful if you want the chart to be placed on its own sheet at the next step.
6. After you have chosen the options that you would like for your graph or chart, click OK.

You now have a new graph or chart. You can move it around the page or resize it like any other drawing object.

It may be necessary to fine-tune or make some changes to your chart. To do so, you can either right click on the whole chart again, or just the area of the chart you would like to change.

Titles

You may want to add a title to your spreadsheet. The easiest way to do this is by adding a header.

Adding a header

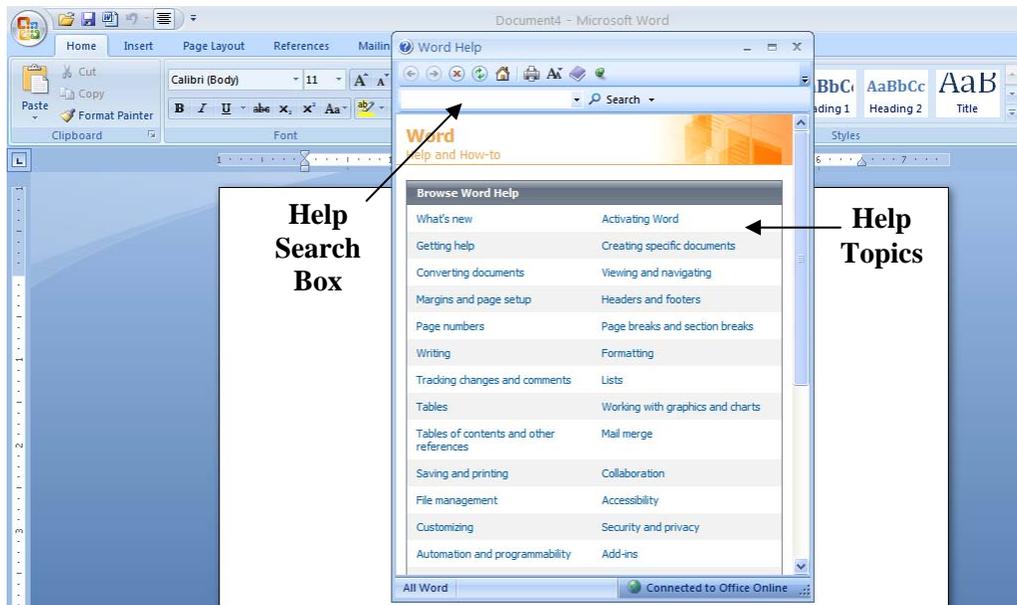
To add a header to your spreadsheet:

1. On **Insert** tab, select **Header and Footer** and click on **Custom Header**.
2. Decide where you want your title to appear on the printed sheet (centered, left corner, right corner) and type in your title. You can format your title by clicking on the “A”. When you’ve formatted your title, click **OK**.
3. Click on the **Microsoft Office Button**, select **Print** and then **Print Preview** to see how your header is going to look when printed.
4. If you are satisfied with its appearance, then click close.
5. If you are not satisfied with its appearance, click close and follow steps 1 through 3 to until you are satisfied with your header’s appearance.

Using Excel Help

Accessing Microsoft Word's Help Feature

If you have a question about Word that you need answered right away, you might want to consult Microsoft Word 2007's built in help feature. You can access this feature in Word by pressing the **F1** key on your computer keyboard. From there you can click on a help topic or search for one using Word's help search box located near the top of the Word Help window.



For Further Reading and Learning

Now that you have completed Intermediate Microsoft Excel 2007, you may want to explore the introductory classes that we offer for Microsoft's other productivity applications like PowerPoint and Publisher.

To find a book on Microsoft Excel, search the library's online catalog using "Microsoft Excel" as a subject.

Learn more about upcoming classes on the library's event's calendar at <http://www.lfpl.org/events.htm> or in our monthly Computer Learning Center brochure.