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Course Reference Handout

MICROSOFT EXCEL - INTERMEDIATE

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DAY 2

Module 03

Terms and References:

List and Tables:

A list consists of data stored in rows of a worksheet, known as records. Each record in a list will have common categories of information tracked for it, which will be organized into columns of the list, or fields. Technically, a List does not become a Table until you apply one of Excel's Table formatting options to the List. Once a List has been formatted as a Table, Excel will automatically apply Table formats and AutoFilters and will provide other instant options, such as a Totals Row and automatic updating as new records are entered.

Proper Design for Lists:

Essentially, there are certain rules you want to follow when designing a list that will be used to track records of information. In doing so, using features that involve Excel Lists will be easier to use, and you will be able to take advantage of certain shortcuts that you would not be able to use if the list was NOT designed properly. Here are the rules for building a properly designed list:

- The first row should contain labels for each of your fields, or columns. This is called the header row.
- Your list should have NO blank rows or blank columns. It's okay to have blank cells, but completely blank rows and columns can be troublesome.
- Your header row should only consist of alphanumeric data—avoid using symbols in your labels.

Emp ID	Last Name	First Name	Dept
1054	Smith	Howard	AT
1056	Gonzales	Joe	AT
1067	Scote	Gail	AT
1075	Kane	Sheryl	AD
1078	Hapsbuch	Kendrick	AC
1152	Henders	Mark	AD
1196	Atherton	Katie	HR

Sorting:

The term "sorting" refers to the way a list is organized. For example, if a list of employee records is alphabetized by the employees' last names, then the list is considered sorted by the Last Name field. Excel's sorting commands allow you to reorganize records in a list by any field in the list, up to a maximum of three.

Sorting Records:

Single Level (Field) Sorting:

To sort by a single field, known as Single Level Sorting

- In a properly designed list, click anywhere in the field, or column, you want to sort by.
- Click the Sort & Filter button located in the Editing group toward the right side of the Home Ribbon.
- You will also find Sort & Filter buttons located on the Data Command Tab of the Ribbon.

Ascending Sort Button:

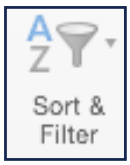
(Sorts text A-Z, numbers 0-9, dates Older-Recent)

Descending Sort Button:

Sorts text Z-A, numbers 9-0, dates Recent-Older

Multiple Level (Field) Sorting:

To sort by two or more fields, known as Multiple Level Sorting:



- In a properly designed list, click any cell in the list. If there are blank rows or columns in your list, you must select the entire list of records manually.
- Click the Sort & Filter button as mentioned above and select the Custom Sort button.
- In Excel 2016, you can sort up to a maximum of 64 fields!

Filtering Records:

By Filtering records, you can hide records from a list using criteria for the records you wish to see. To activate Excel's AutoFilter feature, do the following:

- In a properly designed list, click anywhere in the list. If there are blank rows or columns in your list, you must select the entire list of records manually.
- Click the Sort & Filter button as mentioned above and select the Filter button. Use the drop-down arrows provided to the right of your List's Header Row (labels) to select filtering criteria.
- You can also find similar Filtering options available on the Data Command Tab of the Ribbon.

AutoFilters are also automatically inserted into a List if you use the Format as Table command located in the Styles group of the Home Ribbon.

Inserting Automatic Subtotals:

By inserting Automatic Subtotals, Excel can quickly group and summarize columns of data from a list, so you will not have to create the summary calculations manually.

- In a properly designed list, click anywhere in the list. If there are blank rows or columns in your list, you must select the entire list of records manually.
- Select the Data Command Tab from the Ribbon and then select the Subtotals command located in the Outline group on the right side of the Ribbon. In the Subtotals window, select At Each Change in field to group your Subtotals.

Note:

You must first sort your list by whichever field you choose for this option.

- Select the function you wish to use to summarize the data.

Note:

You CANNOT apply Subtotals to records if you have applied the Format as Table command to your list.

Module 04

Pivot Table:

A Pivot Table is a powerful data analysis tool that is used to summarize and analyze record data stored in a list or table. Pivot Tables allow you to reorganize data, so you can cross-reference information within the rows and columns of a table.

Pivot Chart:

When creating a Pivot Table, you will also have the option of creating a Pivot Chart, which can be used to graphically represent the data organized in the Pivot Table.

Creating Pivot Tables:

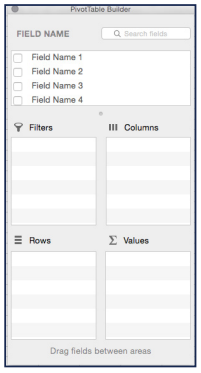
- In a properly designed list, click any cell in the list. If there are blank rows or columns in your list, you must select the entire list of records manually.
- Select the Insert Command Tab from above the Ribbon and then click on the Pivot Table button located in the Tables group on the far left side of the Ribbon. Select either Pivot Table or Pivot Chart.
- In the Create Pivot Table window, verify that you have selected the correct range for your data list.
- Select whether to have the new Pivot Table inserted into a new worksheet or into a location within the currently active worksheet.
- Use the Pivot Table Field List on the right to drag and drop data fields into various areas of the Pivot Table using the Area sections provided at the bottom of the Pivot Table Field List. You can also drag data fields directly into the actual Pivot Table once you have begun constructing the Pivot Table itself.
- The Data area is where mathematical operations take place, such as adding sales revenue. The Page area gives you the ability to filter your Pivot Table by the data located in the Page area.

To Update a Pivot Table:

- Select any cell within the Pivot Table.
- Click the Update button on the lower right of the Pivot Table Field List or right-click in the Pivot Table and select Refresh.

Creating Pivot Charts:

- Click anywhere in the Pivot Table for which you want to graph data.
- Select the Pivot Table Tools > Options Contextual Tab from above the Ribbon and then click on the Pivot Chart button.
- Select a Chart type and click OK.
- Use the Pivot Chart Tools Contextual Ribbons to add and modify chart elements and formatting.
- Pivot Charts also have the unique ability to be filtered and are directly linked to the Pivot Table data they are based on. In a properly designed list, click any cell in the list. If there are blank rows or columns in your list, you must select the entire list of records manually.



Note:

You may add, edit, or delete records from the data source – and therefore you need your Pivot Table to reflect these changes. Pivot Tables do NOT update automatically!

Using a Slicer to filter a Pivot Table:

- Select the PivotTable Analyze tab of the Ribbon.
- Click the Insert Slicer button and select the fields in which you want to filter the Pivot Table data.

Terms and References:

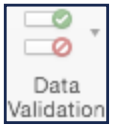
Linking Data:

There are essentially two ways you can link data from one cell to another either across different worksheets or across different workbook files.

- One option is to use a formula. If you click in a cell and enter the "=" (indicating the start of a formula), click the other cell that you want to link. The result is the first cell will be equal to the other. In mathematical terms, A = B.
- Another option is to use the Paste Link technique, which is preferred when there are several cells from one worksheet that you want to link to another. Select the data you wish to link in another place and Copy the data. Then select the Paste Special command located in the Clipboard group of the Home Ribbon and click the Paste Link button.

Data Validation:

Excel's Data Validation options allow you to set limitation or conditions for the data being entered into cells. To set Data Validation rules for a cell or range of cells:



- Select the cell or cells you want to apply the Data Validation rules to.
- Select the Data Command Tab from the Ribbon and then click on Data Validation located in the Data Tools group of the Ribbon.
- From the Settings tab, chose the type of data you want to allow for and any parameters the data must adhere to.

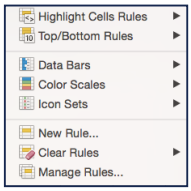
- From the Input Message tab, create any messages you want someone to see if they choose any of cells you applied your Data Validation rules to.
- From the Error Alert tab, chose an error message type and then create a message that will be displayed if the validation rules are broken.

Conditional Formatting:

With Conditional Formatting you can have the appearance of a cell change by selecting formatting options that are activated only when certain data within a cell meets certain conditions. To set Conditional Formatting options for cells, select the cell or cells to which you want to apply the Conditional Formatting.

- Select the Conditional Formatting command from the Styles group of the Ribbon and select from Excel's built-in Conditional Formatting options, or to create your own rule, click on New Rule.

- To add additional conditions and formats, select the Conditional Formatting command from the Styles group of the Ribbon and then click on Manage Rules. Click Add to begin adding a new conditional format.



Conditional Formatting Graphics:

Excel 2016 now also provides Data Bars, Color Scales, and Icon Sets that can insert more graphical representations of Conditional Formatting. To use these new Conditional Formatting options, do the following:

- Select the Conditional Formatting command from the Styles group of the Ribbon and then click on Data Bars, Color Scales, or Icon Sets. Set the condition the cell must meet for the formatting to be applied.
- To adjust the rule settings of the graphics, select the cells, click the Conditional Formatting command, and then select Manage Rules.

Cell Protection:

To protect cells from unauthorized changes or deletions, you can activate Excel's worksheet protection feature. Cells that are locked cannot be modified while the worksheet is protected. To protect a cell or range of cells, do the following:

- By default, all cells in a worksheet are considered unlocked. Before protecting a sheet, select any cells in which you want to allow people to enter and edit data. Then, select Format from the Cells group on the Home Ribbon and click on Lock Cell. Since the cell(s) are already locked, this will Unlock the cells.
- From the Format Cells menu just mentioned, select the Protect Sheet button to officially protect the sheet and all locked cells.
- You can also find protection options from the Review Command Tab located at the top of the Ribbon.
- In the Protect Sheet window, enter a password, so others cannot unprotect your sheet and make unwanted changes.
- Even cells that are still locked can be modified while the worksheet is unprotected. In the Protect Sheet window, you can select from options below to allow these actions to be performed on cells even though the cells are locked and protected.