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Create PivotTable in Excel 2007 to Present Useful Information

This guide will provide you with step by step instructions on how to create a PivotTable in Excel 2007 in order to present data into a useful report format. A sample spreadsheet for use along with this tutorial can be found at <http://www.uwlax.edu/itssupport/downloads/Sample-Data.xls>

What is a PivotTable

A PivotTable is an interactive reporting tool in Excel that allows you to quickly summarize large amounts of data.

Uses for PivotTable

1. Query large amounts of data in many user friendly ways.
2. Subtotal numeric data, summarizing data by categories and subcategories.
3. Expand and collapse levels of data to focus your results, and drill down to details from areas of interest to you.
4. Move rows to columns and columns to rows to see data in different ways. This is where the name PivotTable comes from.
5. Filter, sort, group, and conditionally format the most useful and interesting subset of data to enable you to focus on the information that you want.

Requirements for PivotTables

1. First row must contain titles for each column in your source data. These will become the fields in your PivotTable report.
2. Remaining rows must contain similar items, related to the column heading.
3. There should be no empty columns or rows within the data that you are using for the PivotTable report.

Note: This image shows a well prepared data set for use in a PivotTable report.

	A	B	C	D	E	F
1	Unique ID	Stu Sex	Race	Class Standing	College	Sample
2	1	F	Caucasian	Senior	CBA	1
3	2	F	Caucasian	Senior	CBA	1

Create Your PivotTable

1. Place your cursor anywhere in the data of your spreadsheet, the PivotTable will be created with all of your data included by default.
2. Alternatively, you can select a range that you would like to focus on in the report, such as the sample set of data we see in our example.
3. On the **Insert** tab, in the **Tables** group, click **PivotTable**.
4. The Create PivotTable dialog box opens with **Select a table or range** already selected for you with **Table/Range** showing the range of the selected data.
5. **New Worksheet** is also selected for you as the place where the report will be placed. Click **OK** to create the PivotTable.



Unique ID	Stu Sex	Race	Class Standing	College	Sample
1	F	Caucasian	Senior	CBA	1
2	F	Caucasian	Senior	CBA	1
3	F	Caucasian	Senior	SAH	1
4	F			SAH	1
5	M			CBA	1
6	F			SAH	1
7	F			CLS	1
8	M			Graduate	1
9	M			SAH	1
10	F			CLS	1
11	F			SAH	1
12	F			CBA	1
13	F			CLS	1
14	M			SAH	1
15	F			SAH	1
16	M			SAH	1
17	M			Graduate	1
18	M			CLS	1
19	M			CBA	1
20	F			CLS	1
21	F	Caucasian	Graduate	Graduate	1

Create PivotTable

Choose the data that you want to analyze

Select a table or range

Table/Range: Population Demographics!\$A\$1:\$F\$9228

Use an external data source

Choose where you want the PivotTable report to be placed

New Worksheet

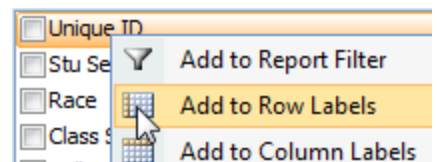
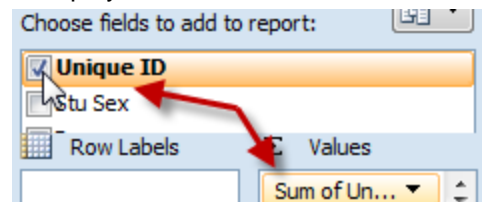
Existing Worksheet

Location: []

OK Cancel

PivotTable Basics

1. You create a PivotTable report by moving fields to the layout area.
2. **Row Labels** or **Column Labels** determine where the data will be displayed.
3. You can add fields to the layout area in a few different ways.
 - a. Click the checkbox for any of your fields.
 - b. Right Click a field and select a location.
 - c. Drag and Drop fields to a layout area.



Build a PivotTable Report

Let's say we want to find out how many Males and Females were in each **College**, sorted by **Class Standing**.

1. First add **Unique ID** to the report by clicking on the checkbox in the field list. The report area automatically displays the Unique ID field added to the report.

	A	B
1	Drop Page Fields Here	
2		
3	Sum of Unique ID	Total
4	Total	42573378

Note: If you do not see the field list, then click anywhere inside the report layout area.

2. Right click the **Sum of Unique ID** heading in the report layout area, and choose **Count** as the desired option in **Summarize Data By**. We should now see our total of 9227.

	A	B
1	Drop Page Fields Here	
2		
3	Count of Unique ID	Total
4	Total	9227

3. Add columns for **Stu Sex** by right clicking the field name in the PivotTable Field List and choosing **Add to Column Labels**.
4. Add rows for both **College** and **Class Standing** by right clicking the field name in the PivotTable Field List and choosing **Add to Row Labels**.

Note: Your field areas list should look something like this.

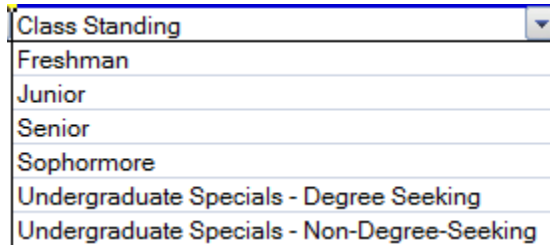
Report Filter	Column Labels
	Stu Sex
Row Labels	Σ Values
College	Count of Uniq...
Class Standing	

And the report should look similar to this.

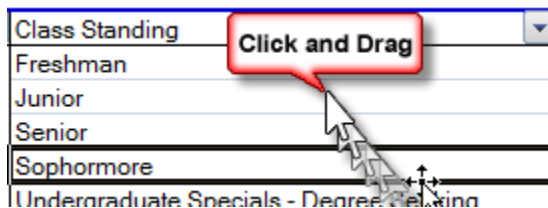
Count of Unique ID		Stu Sex		Grand Total
College	Class Standing	F	M	
CBA	Freshman	121	171	292
	Sophomore	134	224	358
	Junior	161	239	400
	Senior	235	314	549
	Undergraduate Specials - Degree Seeking	13	23	36
	Undergraduate Specials - Non-Degree-Seeking	6	8	14
CBA Total		670	979	1649
CLS	Freshman	335	165	500
	Sophomore	428	189	617

Modifying a Report Layout

1. We can reorder items within our report with ease. You may notice that the list of **Class Standing** is sorted alphabetically.

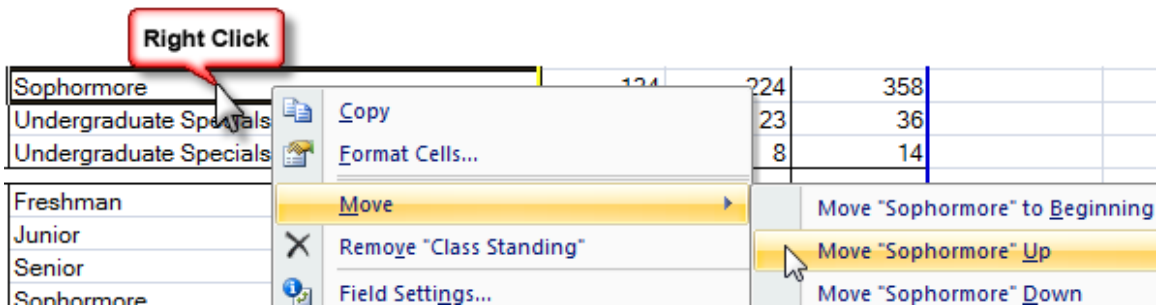


2. Reorder the list by simply moving the cell to the desired order.
 - a. You can select a cell and drag/drop it to the desired location.



Notice the mouse cursor must show the four arrows to move a cell. Place your cursor on the edge of a cell border to accomplish this.

- b. You can also right click on a cell, choose **Move** from the menu and select your desired option.

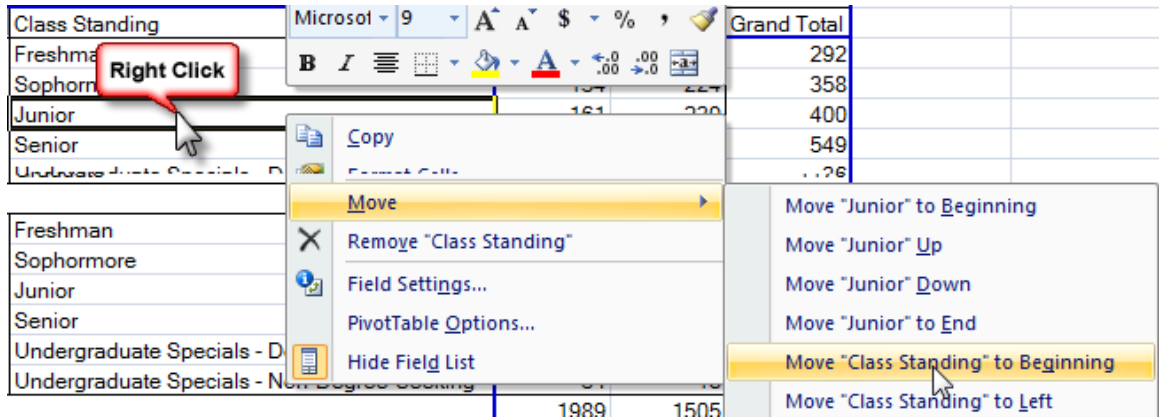


Hint: Here is a really nice shortcut... If you are familiar with using the CTRL-C / CTRL-V shortcuts for Copy and Paste, this can be used to reorder items quickly.

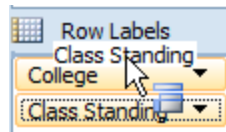
3. When more than one field is in a **Column Labels** or **Row Labels** area, the fields are nested within one another. You can expand and collapse nested groups by clicking on the **+** or **-** buttons within the field.

College	Class Standi
- CBA	Freshman
	Sophomore
	Degree-See
CBA Total	
+ CLS	
+ Graduate	
+ SAH	

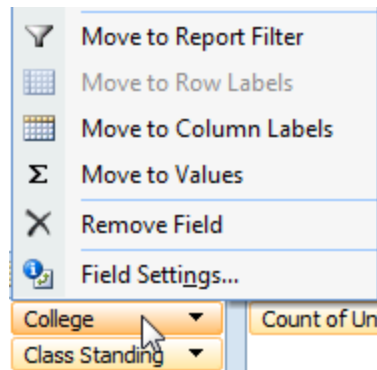
4. Right now our data shows us the data for each **College** with **Class Standing** as a nested row. Let's say that we would like to see **Class Standing** first, then each **College**.
 - a. You may have noticed the option to promote or demote fields from the **Move** command. Right click anywhere within the column you want to move. In this case it is the **Class Standing** column. Under **Move** we can choose **Move "Class Standing" to Beginning**.



- b. Another simple way to change the way our report is laid out is changing order from within our field areas list. Click and drag **Class Standing** above **College** and the report automatically adjusts to the new setting.



- c. Clicking on any field in the field areas list displays the options for moving as well. You can **Move to** any other field area, change **Field Settings**, or **Remove Field**.



Comparing Data

1. In our sample data we have a sample population as indicated with a number 1 in the **Sample** column of our **Population Demographics** sheet. To see how our sample set compares with our population, we can create a new PivotTable by selecting only the sample set as our data range. You should have a new **Sheet2** in your spreadsheet. You can rename your sheets to help keep things organized if you wish.
2. Let's compare how many Males and Females are in our sample compared to the population sorted by College. Set up **Count of Unique ID** in **Values**, **College** in **Row Labels**, and **Stu Sex** in **Column Labels**. Remove **Class Standing** in your first PivotTable for a direct comparison.

Population as a whole

Count of Unique ID	Stu Sex		
College	F	M	Grand Total
CBA	670	979	1649
CLS	2016	889	2905
Graduate	781	398	1179
SAH	1989	1505	3494
Grand Total	5456	3771	9227

Sample Group

Count of Unique ID	Stu Sex		
College	F	M	Grand Total
CBA	32	52	84
CLS	118	38	156
Graduate	43	22	65
SAH	112	83	195
Grand Total	305	195	500

Making Calculations on PivotTable Data

1. Calculations can be made in much the same way as normal. Start the formula in the desired cell with the equals sign and select the cells and operations you want to calculate on. Let's calculate the sample set as it compares to the entire population. In cell **B11**, start the formula with the equals sign, then select **B9** as the first cell in your formula.

5456	3771	9227	
=GETPIVOTDATA("Unique ID",SA\$3,"Stu Sex","F")			

The field identifiers get placed in the formula instead of direct cell references.

2. Continue with the formula by entering the divide sign, then select cell **D9** and press the **Enter** key to complete the formula. You can format your cells as needed. In this case the percentage format would be appropriate. Enter the rest of your formulas and text to get the following.

% of Population	
59.13%	40.87%

% of Sample	
61.00%	39.00%