

## Lesson 00-F-Graphical Analysis II

In Part I we covered the basics of creating a graph. In Part II we will cover some of the more advanced features available in **Graphical Analysis**. The presentation is organized according to the main menu selections.

### The File Menu –

Page Setup... Select landscape printing on this page.

Printing Options... Have your name and the date printed in the footer of the page.

Print Preview... See what it is going to look like on paper.

Print... Print all – Data Table, Text window and Graph on one page.

***This is the preferred printout when you submit a graph as part of a lab.***

Print Data Table... Print the Data Table only.

Print Graph... Print the Graph only.

Preferences... Deselect Larger Text and Thick Graph Trace Lines under **Presentation**

Settings for untitled ....

*or if you've already saved the graph*

Settings for *file name*....

Select Degrees rather than Radians for trigonometric functions in this course.

### The Data Menu –

**New Manual Column...** Add a new column to the Data Table. It works exactly like the first two columns. You may rename it and enter data manually just as you did in them. You can adjust the width of the Data Table and of individual columns in the Data Table.

**New Calculated Column...** Enter a name for the column, a short name and units. To define the column you must enter a calculation – similar to entering a calculation into a calculator. Use the symbols +, -, \*, /, ^ to define the arithmetic operations. Use parentheses whenever useful. Select any other functions from the pull down list under functions. Enter data from any previously defined column using the pull down menu under Variables (Columns).

**Column Options...** Generate equally spaced entries in the column from a starting value to an ending value in specified increments. This is useful for creating time points, say, that can be used in calculations in later columns. Usually in the first column.

### Analyze Menu –

**Curve Fit...** Select a standard equation or define your own equation. Conduct a least squares fit of the data to the chosen equation. This is the most powerful feature in **Graphical Analysis'** entire arsenal of features.

**Zoom Graph Out -** Use this if you have trouble finding all the data points. Use the Zoom Graph In to reset the graph before you print it.

### Insert Menu –

Insert a second Graph, Data Table or Text Box.

**Options Menu** – The available options change to match the active window. Graph options are only available if the graph window is the current default window. Click on the graph to make it the active window. From the Options menu you can click on **GRAPH –OPTIONS**. From here you can turn off connecting lines, interchange the axes, give the graph a title, and elect to have the mouse's coordinates on the grid printed in the lower right-hand corner of the graph.

Page Menu – This gives you the option of keeping more than one graph available in the saved file. Each page contains its own data table and graph. Each can be customized to show just the data you want and just the graph you want to go with that data. When you create a new page DO NOT choose to create a duplicate of the current page. In that case all the data will be copied and updated in the new page to match the original. The pages are not independent.

Features Other Than Menu Features – Each of the pieces on the page in these graphs has a menu of its own that you can access by right-clicking on the item. Here are some examples. You can find others for yourself. Right clicking brings up new lists of the relevant options.

- Right click on the title for the horizontal axis of the Graph.
- Right click on the title for the vertical axis of the Graph.
- Right click anywhere on the Data Table.
- Right click anywhere in the Text Box.
- Right click anywhere in the space between the windows.

You can also Left click on most of these same components and bring up relevant options. Left clicking allows you to make more drastic changes than right clicking. For example:

- Left clicking on the title for the horizontal axis. This will allow you to select data from a different column to serve as the x-axis of the graph.
- Left clicking on the title of the horizontal axis. This allows you to change the data graphed vertically and/or to graph several columns vertically on the same graph.
- Left clicking almost anywhere on the graph allows you to make these same changes all at one time rather than one piece of the graph at a time. Both have their place.