**Generating graphs in Excel**

1. Open Excel
2. Enter data (for this first lab, enter the time in column A, the distance in column B and the instantaneous velocity in column C
3. Click on the first cell containing data in column A and drag through the last cell that contains data in column B.
4. Go to the menu bar and click Insert>charts>scatter and select the option that only plots the data points.
5. You can change the look of the data points by clicking on one to highlight them, then right click and select Format Data Series. From here you can change the shape and color of the data points by choosing Marker Options (built-in), Marker Fill Options and Marker Line Options. I would suggest small (size 4), black circles.
6. Your graph should include axis labels so go to the menu bar and click Layout>Axis Titles. Make sure to include not only a title, but also units such as Position (cm) or Velocity (cm/s). You should also put a chart title on your graph and include your name after the title.
7. A best fit trend line should also be added if appropriate (and it usually is), so from the Layout tab on the menu bar select Trendline>More Trendline Options (at the bottom) and then select the appropriate type of trend (linear, polynomial, etc.). Also at the bottom of the window you should check the box to Display Equation on chart.

Additional note:

1. If the two columns in the data you entered are not side-by-side you can still easily make a graph of the data by dragging through the first column you want to plot and then holding down the control key while you drag through the second column.

**Generating graphs in LoggerPro or Graphical Analysis**

1. Open LoggerPro or Graphical Analysis
2. Enter your data in the x and y columns. The data points are plotted automatically.
3. Double click on the x or y above each column to enter the column description and units. Axis labels and units will automatically be added to the graph. Select the Options tab in this window to change the color and/or type of the data points.
4. You may need to change the scale to one that is more appropriate. Click on the number at the end of the axis that needs to be changed and enter the new value.
5. To clean up the graph a little double click in the graph area and make the appropriate changes either under the Graph Options tab (such as add a title and remove the check in the Connect Points box ) or the Axis Options tab.
6. The best fit trend line can be added by clicking on the Linear Fit or Curve Fit buttons at the top of the window or by choosing the Analyze option from the menu bar.