Using Excel for Plotting Data

Excel can be used to generate a variety of accurate graphs or plots with a professional appearance - if you take the time to use it correctly! In ME 360, you will have occasion to generate graphs of both experimental data (usually plotted as points only) and to estimate or “fit” analytical expressions of the appropriate type to the data.

The general procedure for generating a plot (Excel calls them charts) will be as follows:

1. Select the columns of X-Y data pairs (best to put X data in first column, Y data in adjacent columns) that you wish to plot.
2. Click Insert / Scatter (most common kind of plot in engineering)
3. Select the type of scatter plot required:
   - points only (experimental data)
   - "smooth" lines only connecting the points (some kinds of theoretical data),
   - both points and straight lines connecting the points, (data known to follow a specific form)
   - both points and "smooth" lines connecting the points
   - straight lines only connecting the points (some kinds of theoretical data).

Note that you can change these options at a later time. Excel will now draw a sample chart for you.

You may change almost any aspect of your graph by “double clicking” within the graph and selecting (by pointing and clicking) the graph object you wish to change. Some of the more common items that you may wish to edit include:

- Change font size or type for titles, legends, axes labels, etc.
- Remove a gray background or a border from the graph
- Change the symbols for data points
- Add or remove lines from data point sets
- Change the minimum or maximum values for X or Y scales
- Change a linear axis scale to logarithmic
- Adding text for titles, legends, axes labels, etc.
- Adding or changing gridlines
- Adding your name and date to graphs

See the tutorials on the ME 360 website for these and other operations:

http://www.me.ua.edu/me360/docs/Excel-WhatToKnow/KnowInExcel.htm