EGR 120
Introduction to Engineering
File: Exponential Regression.xls

Exponential Regression using Microsoft Excel

An exponential equation has the general form: $y = be^{mx}$
Exponential data will exhibit a straight-line relationship when the x values
are graphed on a linear scale and the y values are graphed on a log scale.

Problem 3.18 - Plot C vs W and find an exponential formula that expresses C in terms of W
Geiger Counter: Counts per second vs plate thickness

Measured data from textbook:

Plate Thickness W (mm)	Geiger Counter C (counts per second)
2.0	5500
5.0	3700
10.0	2550
20.0	1300
27.5	715
32.5	470

1) Graph the data using an xy (scatter) plot
2) Right-click on the data points or line on the graph and select "Add trendline"
3) Pick "Exponential" for the type of trendline
4) Under the Options tab add checks to display the equations and R squared
5) Change the y-axis to a log scale and the x-axis to a linear scale (right click on the axis)

Counts per second versus Plate Thickness

$y = 5855.6e^{-0.0771x}$

$R^2 = 0.9958$