Welcome to Physics 170

YOUR FIRST DAY:

1. FILL OUT QUESTIONNAIRE

2. ROGUES' GALLERY

We would like to have your pictures on the wall, if not for inspiration, then at least for amusement. Use the CCD camera to record your image. Then insert it into Microsoft Word so that you can put your name under your visage, and print it out on our laser printer. (3"x4")

3. MAKING GRAPHS USING **KaleidaGraph**

On your flash card is a file called: MAGTSTS.DAT. This file has magnetic data that were taken in the Physics Dept. There are four columns of data: (1) absolute temperature (Kelvins), (2) applied magnetic field (Gauss), (3) magnetic susceptibility, (4) the uncertainty in the magnetic susceptibility measurements.

Make and print out a graph of susceptibility (χ) versus temperature T. To do this, you will need to put this data file into **KaleidaGraph**. Just open the file in KaleidaGraph; and before you hit "OK" , turn off "read titles", and under "delimiter" choose "other" with comma & under "Number" choose ">=1".

Theory predicts that the susceptibility should obey the Curie-Weiss law:

$$\chi = \frac{C}{T + \theta} \qquad\qquad (1)$$

where C and θ are constants. Devise a way of plotting the data so that if Eq. (1) is obeyed by the data then the data points will follow a **straight line** on the graph. You can then do a fit of Eq. (1) to the data in order to obtain C and θ.

4. YOUR SECOND THREE-HOUR LAB SESSION EACH WEEK

Find your name on the excel spreadsheet and enter a "1" in times that you have classes and work. From this input, we will establish the day and time for your second three-hour lab session.

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