# ECE 111 - Homework #14

Week #14 - ECE 321 Electronics II. Due 11am Tuesday, November 29th

1) Find a temperature sensor from www.Digikey.com other than the one covered in class. From the data sheets, determine the resistance vs. temperature relationship.

2) Convert this resistance to a voltage using a voltage divider and a +5V source. Plot the voltage vs temperature relationship.

3) Over the range of -25C to +25C, determine a linear calibration curve fit as

$$T \approx aV + b$$

4) Over the range of -25C to +25C, determine a cubic calibration curve fit as

$$T \approx aV^3 + bV^2 + cV + d$$

5) If the voltage across your voltage divider is 1.25V, what is the temperature?