## EE 1000 Lab 1 Formal Report Grade Breakdown

### Communications:
- **5** Organization (ease of locating figures/code/etc.)
- **5** Clarity of style (ease of reading, and etc.)
- **5** English (grammar, punctuation, and etc.)
- **3** Introduction
- **3** Figure titles and numbers
- **4** Equations explained (at least one sentence between equations)
- **5** Matlab listings and comments
- **30** Total

### Thermistor Modeling (Part C):
- **3** Description of process used to prepare and test Thermistor
- **2** Rewrite thermistor equation to linear form
- **2** MATLAB plot of measured data
- **4** and use to make linear regression with explanations
- **11** Total

### Derivation of Vo(t) (Part D):
- **2** Clear use of Kirchhoff’s current law/op amp properties to define current relations (labeled pictures help clarity)
- **2** Clear use of Kirchhoff’s voltage law/op amp properties to define voltage relations (labeled pictures help clarity)
- **6** Correct derivation of Vo(t)
- **2** Two consistency checks
- **12** Total

### Computer Program (Part E1):
- **12** Write a correct MATLAB program that when used with fmins or fminsearch returns resistor vals to be used

### Circuit Parameters (Part E2):
- **9** Use that MATLAB program and fmins/fminsearch to determine the correct resistor values
- **2** Plot of linearity of original guesses
- **2** Plot of linearity of fminsearch optimized guesses
- **13** Total

### Circuit Measurements (Part F):
- **3** Description of construction of circuit and testing procedure
- **4** Actual measured resistor values in report and used in MATLAB program
- **2** Clearly labeled table of measured values
- **4** MATLAB plot of measured vs calculated values
- **5** Comments on accuracies or inaccuracies (similarities or differences) seen between two (why same or not)
- **18** Total

### Temperature Meter (Extra Credit) (Part G):
- **5** Description, diagram, and correct derivation as per part G

### Conclusions:
- **1** Validity of Models (Thermistor equation, op amp assumptions, etc.)
- **1** Effectiveness of analysis procedure and methods, including MATLAB
- **2** Success and usefulness of your device for measuring temperature
- **1** Discretion of TA for good conclusion
- **5** Total

**100 Grand Total**