Kirchhoff’s Rules Lab Grading Rubric TOTAL \_\_\_\_\_\_

85

\_\_\_\_\_ **Cover Page [10 Points]**

\_\_\_\_ Course Name [0.5 Points]

\_\_\_\_ Title of the Experiment [0.5 Points]

\_\_\_\_ Name [0.5 Points]

\_\_\_\_ Lab Partner’s Name(s) [0.5 Points]

\_\_\_\_ Group Number [0.5 Points]

\_\_\_\_ TA’s Name [0.5 Points]

\_\_\_\_ Date of Experiment [0.5 Points]

\_\_\_\_ **ABSTRACT [6.5 Points]**

\_\_\_\_\_ **Objectives [5 Points]**

**\_\_\_\_\_ Procedure [5 Points]**

**\_\_\_\_\_ Experimental Data [15 Points]**

**\_\_\_\_\_** Voltage Reading Across Resistors Part 1 [2 Points]

\_\_\_\_\_ Current Measurements Part 1 [3 Points]

\_\_\_\_\_ Voltage Measurements Part 2[2 Points]

\_\_\_\_\_ Current Measurements Part 2 [2 Points]

\_\_\_\_\_ Graph of Power vs. Resistance [6 points]

**\_\_\_\_\_ Results [20 Points]**

\_\_\_\_\_ Statement of Necessary Equations [8 Points]

\_\_\_\_\_ State Equations [3 Points]

\_\_\_\_\_ Define the parameters [1 Points]

\_\_\_\_\_ Explain derivation (where do equations come from?) [4 Points]

\_\_\_\_\_ Calculations proving Node Rule [3 points]

\_\_\_\_\_ Calculations proving Loop Rule [4 points]

**\_\_\_\_\_** Calculation of Power (2 different methods) [1 Points]

\_\_\_\_\_ Calculations of Error [4 points]

\_\_\_\_\_ Comparing ε to measured voltage with percent error [1 point]

\_\_\_\_\_ Comparing R0 to measured resistance with percent error [1 point]

\_\_\_\_\_ Comparing P=IV to P=I2R with numbers and equations [2 points]

**\_\_\_\_\_ Discussion and Analysis [20 Points]**

\_\_\_\_\_ Was the Node Rule confirmed? [3 points]

\_\_\_\_\_ Was the Loop Rule confirmed? [3 points]

\_\_\_\_\_ Do measured ε and calculated ε agree? Why or why not? [2 points]

\_\_\_\_\_ Do measured and calculated R0 agree? Why or why not? [2 points]

\_\_\_\_\_ Are the two different ways of calculating Power Consistent? Why or why not? [2 points]

\_\_\_\_\_ Maximization of Power in terms of RL [8 points]

**\_\_\_\_\_ Conclusion [10 Points]**

\_\_\_\_\_ Was Objective Completed [3 Points]

\_\_\_\_\_ Application to Real World [2 Points]

\_\_\_\_\_ Overall report is well written and follows syllabus in format [5 points]

**\_\_\_\_\_ Total [Out of 85 Points]**