LABORATORY PROJECT NO. 1
Report Grading

21 Communication
– IEEE single column, double spaced format (−15 pts if not used)
4 Clarity of style (ease of reading, and etc.)
4 Organization (ease of locating figures/code/etc)
4 English (grammar, punctuation, and etc.)
3 Section numbers and headings (use section numbers shown below)
3 Equations explained (at least one sentence between equations)
3 Figure titles and numbers
3 Abstract (succinct summary of numerical results)

3 I. Introduction (motivation for lab, overview of report organization)

9 II. Measurements of Op-Amp Circuits for Pre-Amps (Section IV in handout)
3 A. Table I: Measured resistor values (Table II in handout)
3 B. Table II: Measured voltages for negative-gain Op-Amp (Table III in handout)
3 B. Table III: Measured voltages for positive-gain Op-Amp (Table IV in handout)

12 III. Solutions of Op-Amp Circuits for Pre-Amps (Section V in handout)
3 A. Expression for $v_o$: negative-gain op-amp circuit
3 A. Expression for $v_o$: positive-gain op-amp circuit
3 B. Table IV: Expected values for negative-gain op-amp circuit (Table V in handout)
3 B. Table V: Expected values for negative-gain op-amp circuit (Table VI in handout)

9 IV. Solutions of Op-Amp Circuits for Pre-Amps (Section VI in handout)
3 A. $a$ and $b$ for hand-drawn plots of $y$ versus $x$ (Section VI C in handout)
3 B. $a$ and $b$ for polyfit of $y$ versus $x$ (Section VI D in handout)
3 C. $a$ and $b$ for symbolic expression of $y$ versus $x$ (Section VI E in handout)

9 V. Pre-Amp Input Resistance (Section VII in handout)
3 A. Equations: calculated input resistance
3 B. Table VI: Measured input resistance: negative-gain (Table VII in handout)
3 B. Table VII: Measured input resistance: positive-gain (Table VIII in handout)

6 VI. Pre-Amp Design and Test (Section VIII in handout)
3 A. Fig: Pre-amp schematic
3 B. Table VIII: pre-amp input and output voltage for tests

12 VII. Differential Amplifier (Section IX in handout)
3 A. Equations: expressions for $v_3$, including in terms of $v_{cm}$ and $v_{dm}$ (Section IX B)
3 B. Resistor values used in differential amplifier design (Section IX C)
3 C. Table IX: differential amplifier test results (Section IX D)
3 D. Gain calculation (Section VI E in handout)

6 VIII. Electromyogram (Section X in handout)
3 A. Fig: recorded electromyogram from oscilloscope
3 B. Fig: plot of power vs weight (Section X C)

5 IX. Conclusion (summary of key results, including numerical values)
5 Appendix A
5 Matlab® code listing(s) with comments for plots and power calculations