30　　*Communication*
4　　Work recorded in notebook (rather than pasted in)
8　　Complete information: task descriptions, diagrams, data, reproducible one year later
4　　Written in Ink
4　　Student Signed every page
4　　Student Dated every page
6　　TA Signature for every lab session (-3 each session missed)

Lab 2

20 IV. CAPACITOR CHARGING CIRCUIT
4　　Differential equation for v_C

4　　Solution of equation for v_C

2　　Expression for i_C

2　　Solution for R value to limit current to 10 mA

1　　Diagram and explanation of constructed RC circuit

3　　Sketch of v_C from oscilloscope

2　　Values of two points on v_C waveform using oscilloscope cursors

1　　Calculation of RC time constant value

1　　Comparison of measured and expected RC values

30　V. ANALYSIS OF LAUNCHER CIRCUIT
10　　Differential equation for inductor current i
4　　Solution of differential equation; expression for i overdamped
6　　Matlab® plot of i overdamped
4　　Solution of differential equation; expression for i underdamped
6　　Matlab® plot of i underdamped

10 VI. CONSTRUCTION OF COIL FOR LAUNCHING CIRCUIT
2　　Measured L for coil
1　　Measured R_s using RLC meter
1　　Measured R_s using multimeter
6　　Recorded distances for three launches

10 VII. CALCULATION OF KEY LAUNCHER VALUES
2　　Calculated C for critical damping
1　　Comment on critical damping C versus launcher C
3　　Calculated $t_{i\,\max}$
2　　Calculated maximum coil current
2　　Calculated voltage across coil at current max