Laboratory Project 3: Spirogravitator
Laboratory Notebook Contents and Grading

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 3

40 VII.	**ANALYSIS AND DESIGN OF CIRCUIT**
	A. *Equations*
8	Derivation of $V_0(s)$, including diagrams of circuit and comments
8	Derivation of $V_1(s)$, including diagrams of circuit and comments
	B. *Circuit Parameters*
2	Formula for α in terms of R_1, R_2, R_3, C_1, C_2, and L
2	Formula for β in terms of R_1, R_2, R_3, C_1, C_2, and L
6	Formula for making $\psi = \pm 90°$ in (2) in terms of R_1, R_2, R_3, C_1, C_2, and L
2	Formula for making $a = b$ in terms of R_1, R_2, R_3, C_1, C_2, and L
2	Measured value of L and measured value of R_0 (resistance in L)
4	Calculated values of R_1, R_2, R_3, and C_1 (which is same as value for C_2)
	C. *Double Spiral*
6	Matlab® plot of expected spirals (and code in Appendix)
30 VIII.	**CONSTRUCTION AND TESTING OF SPIROGRAVITATOR CIRCUIT**
	A. *Circuit Construction*
1	Commented on construction of circuit
	B. *Display $v_0(t)$ and $v_1(t)$*
1	Commented on display of $v_0(t)$ and $v_1(t)$ (plotted versus t)
	C. *Display the Spirals*
1	Commented on display of spirals
	D. *Measure $v_0(t)$ and $v_1(t)$*
3	Matlab® plot of measured $v_0(t)$ and $v_1(t)$
18	Measured values (and explanation or how obtained) for α, β, ψ, a, b, and c
	E. *Comparison of $v_0(t)$ and $v_1(t)$*
6	Matlab® plot of expected and measured spirals superimposed