ECE 332
Lab 7d: RLC Circuit Design Rubric
Spring 2017

Technical: 80% of lab score

Prelab (20 pts)

- ☐ Score from prelab

Objective (2 pts)

- ☐ Described the purpose or goal of the design

Specifications and Limitations (3 pts)

- ☐ Defined exactly what this design is supposed to do
- ☐ Defined circuit specifications: ζ, ω_o, rise time, overshoot, etc.
- ☐ Discussed limiting factors (source resistance, loading, parts, etc).

General Approach (5 pts)

- ☐ Determined a method using theory to design the circuit
- ☐ Determined a method to build, test, and compare lab performance with required specifications

Design (10 pts)

- ☐ Discussed the theory of RLC circuits, provided all relevant equations
- ☐ Included plot showing predicted circuit response and verified ζ and ω_o
- ☐ Included relevant equations relating circuit parameters to specification parameters
- ☐ Included Multisim results showing realized response and verified of ζ and ω_o
- ☐ Determined component values and included plots verifying ζ and ω_o
- ☐ Included initial error calculations

Implementation (5 pts)

- ☐ Recorded the physical implementation of the design in hardware. Included schematic of constructed circuit
- ☐ Included construction/building issues, testing problems, design changes, and anything else between building and final completion

Analysis and Testing (25 pts)

- ☐ Included O-Scope plot (screen capture or imported data to Matlab).
- ☐ Showed measurement of ζ and ω_o
- ☐ Included a table comparing desired specifications, designed simulation (Multisim), and built data
- ☐ Included an overlay plot of transient response from prediction (Matlab), simulation (Multisim), and lab data
- ☐ Addressed all significant errors
- ☐ Discussed any key difficulties

Conclusions (10 pts)

- ☐ Summarized the lab restating key items from Analysis and Testing
- ☐ Explained how circuit did or did not work according to specifications

Presentation: 20% of lab score

- ☐ Written communications (10 pts)
- ☐ Presentation and format (10 pts)

Names_____ Grade= _____/ 100 = _____