ECE2000
Lab2 – Report Point Breakdown

Communication
Organization (ease of locating figures/code/etc ) 5
Clarity of style (ease of reading, and etc.) 5
English (grammar, punctuation, and etc.) 5
Introduction 3
Figure titles and numbers 3
Equations explained (at least one sentence between equations) 4
Matlab listings and comments 5

Component Measurements
Explanation of procedure for finding $R_s$, $C_s$ 3
Table listing $R_s$, $C_s$ (Measured Values) 2

Preliminary Work
Matlab Code of function summing Fourier series 2
Matlab Plot of 1kHz triangle wave using function summing Fourier series 2
Explain how Fourier series for $v_o(t)$ obtained using phasors 2
Matlab Code calculating $v_o(t)$ for arbitrary component values 2
Matlab Plot of $v_o(t)$ for component values in handout (blocks 1.2kHz) 1kHz=1/1ms triangle input 2
Matlab Code plotting frequency response, $|H(s)|$, vs frequency for arbitrary component values 2
Matlab Plot of frequency response, $|H(s)|$, vs frequency for component values in handout 2
Explain above Matlab Plot of $v_o(t)$ given frequency response plot 2
Matlab Plot of $v_o(t)$ for component values in handout (blocks 1.2kHz) 0.6ms triangle input 1
Explain Matlab Plot of $v_o(t)$ given frequency response plot 1
Matlab Plot of $v_o(t)$ for your component values (and $R_s$ and $C_s$) 3
Explain Matlab Plot of $v_o(t)$ given frequency response plot 1
Matlab Plot of frequency response, $|H(s)|$, vs frequency for your component values (and $R_s$ and $C_s$) 2
Explain Matlab Plot of $v_o(t)$ given frequency response plot 1

Circuit Design
Determine values of $C_1$ and $C_2$ that will block 1kHz and pass 3kHz (ignore $R_s$ and $C_s$) 3
Matlab Plot of frequency response, $|H(s)|$, vs frequency for your component values (and $R_s$ and $C_s$) 2
Matlab Plot of $v_o(t)$ for your component values (and $R_s$ and $C_s$) 1kHz=1/1ms triangle input 3
Explain Matlab Plot of $v_o(t)$ given frequency response plot 2
Determine values of $C_1$ and $C_2$ that will block 9kHz and pass 27kHz (ignore $R_s$ and $C_s$) 3
Matlab Plot of frequency response, $|H(s)|$, vs frequency for your component values (and $R_s$ and $C_s$) 2
Matlab Plot of $v_o(t)$ for your component values (and $R_s$ and $C_s$) 9kHz triangle input 3
Explain Matlab Plot of $v_o(t)$ given frequency response plot 2

Measurements (all for ≈1kHz triangle wave input)
Table listing all measured Component Values for your actual circuit (blocks 1kHz, passes 3kHz) 3
Plot of measured frequency response, $|H(s)|$, vs frequency for your actual circuit 3
Explain of how you chose actual Fundamental Frequency of your triangle wave input (≈1kHz) 3
Plot of measured $v_o(t)$ for your component values with 1kHz triangle input 3

Comparison of Calculated and Measured Results (all for ≈1kHz triangle wave input)
Matlab Comparison Plot of Calculated and Measured freq response, $|H(s)|$, vs freq for your circuit 2
Matlab Comparison Plot of Calculated and Measured $v_o(t)$ for your component values (and $R_s$ and $C_s$) 2
Comments on Measured vs. Calculated Comparison 1

Conclusion 5 Points Total