# ECE 3043 Spring 2019
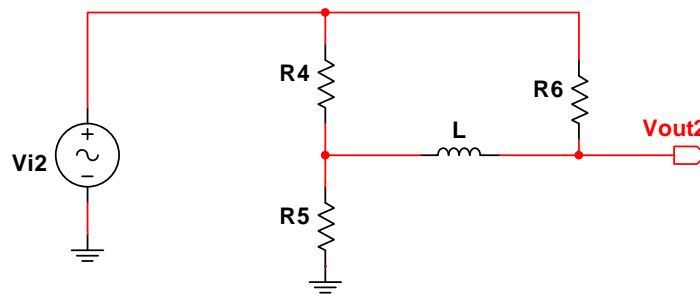# Homework Problem Set No 2 for Experiment No. 3

Due Week of January 27

1. Determine the complex transfer function for the two circuits shown below. Express the answer in terms of the symbols for the circuit components and the complex frequency variable s. Express the answer as a ratio of polynomials in s.

2. Plot the Bode plot for the two circuits using either Mathcad or Matlab. Plot the frequency response one decade below the lowest critical frequency and one decade above the highest. The values of the circuit components are $R_1 = 100\,\mathrm{k\Omega}$, $R_2 = 100\,\Omega$, $R_3 = 3.9\,\mathrm{k\Omega}$, $L = 3\,\mathrm{mH}$ and $C = 1\,\mathrm{nF}$.

3. Make the same plot as in Problem 2 using National Instruments SPICE (Multisim).
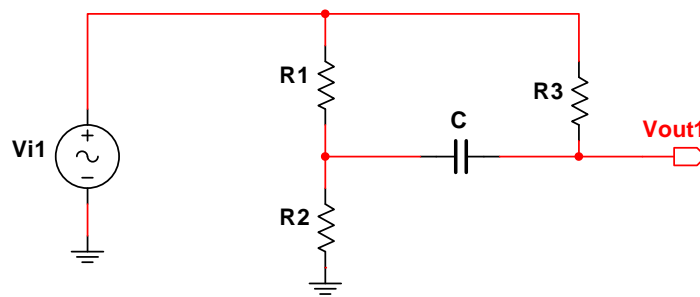
Circuit 1. Capacitor

Circuit 2. Inductor