ECE 321 - Homework #3

Filter Design. Due Monday, April 16th, 2018

(Option 1): Design a filter to meet the following requirements

- Input: +/- 10V analog signal, 0 - 10kHz, capable of driving 10mA (1k resistor)
- Output: +/- 10V analog signal, 0 - 10kHz, capable of driving 10mA (1k resistor)
- Relationship

    $0.9 < Gain < 1.1$ $0 < f < 200$ Hz

    $Gain < 0.1$ $f > 600$ Hz

(Option 2): Make up your own problem

1) (Analysis): Give the transfer function for a filter which meets these requirements

2) (Analysis): Design an op-amp circuit to implement this transfer function

3) (Simulation): Test your design in simulation with PartSim (or similar software)

4) (Validation): Build your circuit and test it in lab to verify it meets your requirements.