ECE 580

HOMEWORK 5

Due Dec. 1, 2014

1. An elliptic filter has the following specifications:

Passband ripple	$\alpha_p = 0.1$ dB
Minimum stopband loss	$\alpha_s = 60$ dB
Passband limit	$f_p = 1$ MHz
Stopband limit	$f_s = 2.1$ MHz

The dc gain should be 0 dB.

a. Find the zeros and poles of the transfer function $H(s) = V_{out}/V_{in}$.

b. Plot the gain and phase responses of the filter.

c. Plot the step response of the filter.