## **ECE 580**

## **HOMEWORK 4**

## Due Nov. 21st, 2014

1. $a$ Recalculate the constant $C_n$ in the Butterworth filter example on p. 149 assuming that the specifications are met exactly at the passband limit $f_p$ .
b. What is the loss at the stopband limit frequency $f_s$ ?
2. Derive the relation for the highest $Q_p$ of an $n^{th}$ -order Butterworth filter.