

# **BME 311**

## **Biomedical Instrumentation I**

### **13 – Notch Filter**



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# Notch Filter

$$\frac{V_{out}}{V_{in}} = \left( \frac{R_{ng}}{R_{ig}} + 1 \right) \left( \frac{1}{\sqrt{\left(1 - \frac{f^2}{f_c^2}\right)^2 + \left(4 \frac{f}{f_c}\right)^2}} + \frac{1}{\sqrt{\left(1 - \frac{f_c^2}{f^2}\right)^2 + \left(4 \frac{f_c}{f}\right)^2}} \right)$$

$R = 31.8\text{k ohm}$ ,  $C = 0.1\mu\text{F}$ ,  $f_c = 50\text{Hz}$

