ELC 3252 : Control Engineering
Section 2

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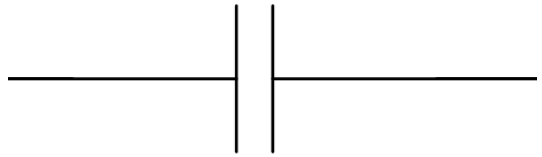
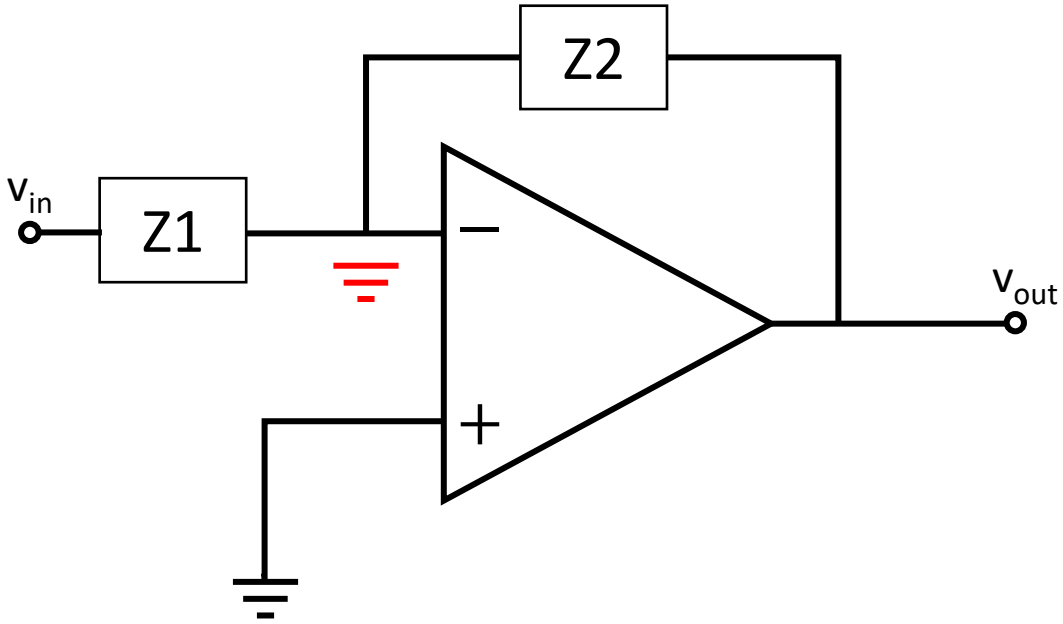
Electronic Systems

R	L	C
		
$v(t) = R\ i(t)$	$v(t) = L\frac{di}{dt}$	$i(t) = C\frac{dv}{dt}$
$V(s) = R\ I(s)$	$V(s) = L\left(SI(s) - i(0)\right)$	$I(s) = C\left(V(s) - v(0)\right)$
$TF = Z(s) = R$	$TF = Z(s) = SL$	$TF = Z(s) = \frac{1}{SC}$

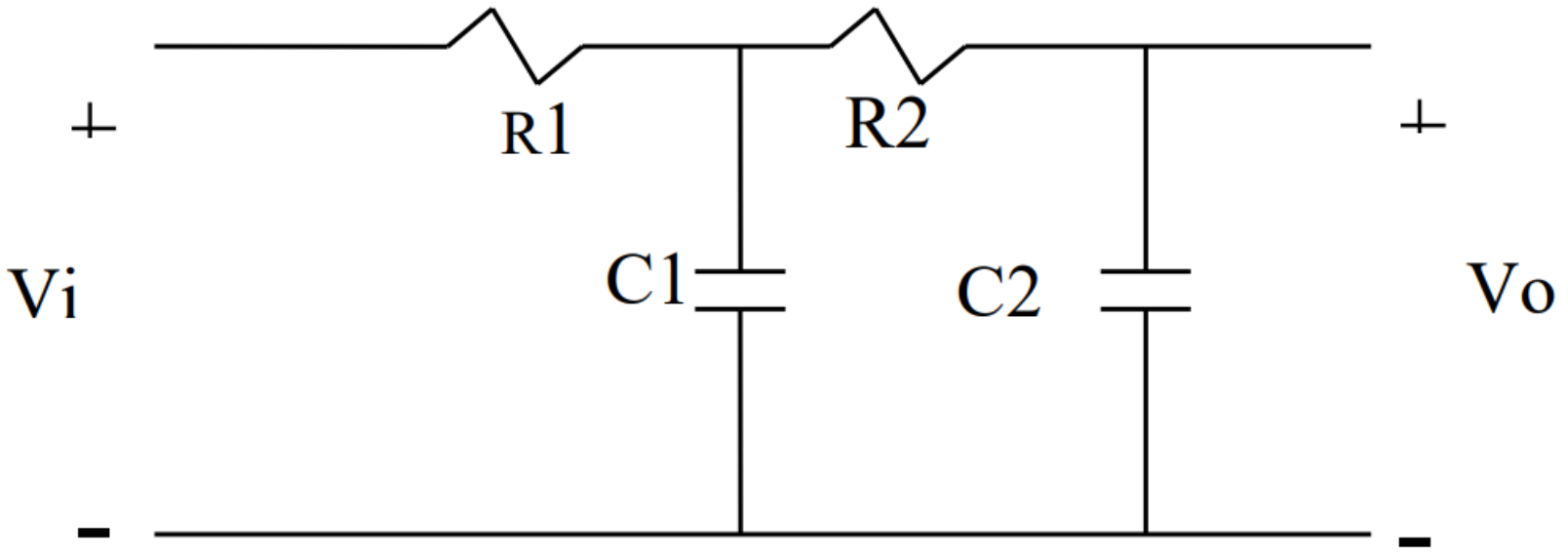
Electronic Systems
Operational Amplifier

- $v^+ = v^- = 0$
- $\frac{V_{in}}{Z1} = -\frac{V_{out}}{Z2}$
- $TF = \frac{V_{out}}{V_{in}} = -\frac{Z2}{Z1}$



Sheet 2

1. For the circuit shown, obtain the transfer function Vo(s)/Vi(s).



Sheet 2

2. For the Ideal Op-amp circuit shown, obtain the transfer function Vo(s)/Vi(s)