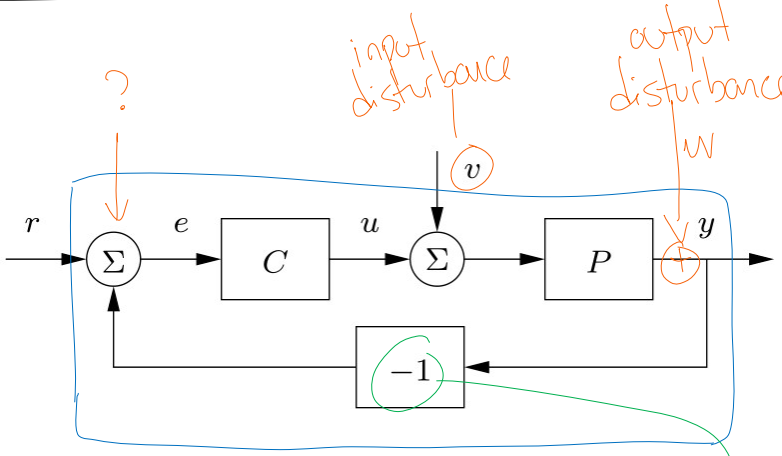
ECE 447: Control Systems (Fall 2020)

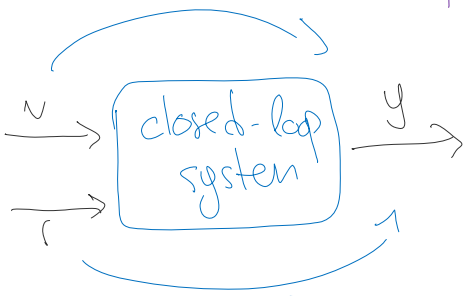
Prof: Sam Burden TA: Haonan Peng

* if/when possible: keep video on; unmute to ask Questions
* update your preferred name at identity.uw.edu

today:
- ☑ HW0 assigned – due Fri Oct 9
- ☑ week 1 lectures posted (~2.5 hours)
- ☐ office hour ← starting @ 1:40p
  → Colaboratory notebook



$G_{yv} = \frac{P}{1+PC}$ ← disturbance rejection



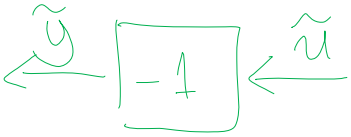
$G_{yr} = \frac{PC}{1+PC}$ ← reference tracking

* ideally: $G_{yv} = 0$, $G_{yr} = 1$

but: $G_{yv} = \frac{P}{1+PC}$

$G_{yr} = \frac{PC}{1+PC}$

$G(s) = -1$



$\tilde{y}(t) = -\tilde{u}(t)$

$$G_{yr} = \frac{\cdot}{1+PC}$$

$$\tilde{y}(t) = -\tilde{u}(t)$$

$$\text{So } \frac{1}{P} G_{yv} + G_{yr} = \frac{1+PC}{1+PC} = 1$$