

## Midterm Format and Scope

Midterm on 3/2 on Zoom (6:00 - 8:00)

Can use calculators, but only for elementary operations

Need to turn on camera during exam

1. Conceptual Question about control architecture (no math)
2. Find state-space equation (given definition of state, input, output)  
If linear, get  $A, B, C, D$  matrices  
→ Similar to HW
3. Find response of single-input, single-output system  
→ Similar to HW
4. Solve state-space equation (find  $y(t)$  by using matrices)  
First, get  $Y(s)$ , then do ILT
5. Stability: given  $A$  matrix, find out if system is stable
6. Pole placement (find  $k$ )  
→ Similar to HW 5
7. Controllability