



# MEEG 311 – Lecture 15

## Vibration and Control

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### **Goals:**

- Open-loop vs. closed-loop systems via an example: Velocity control of a field-controlled DC motor
- Open-loop architecture
  - Transient response (fast and slow poles)
  - Steady-state response and the Final Value Theorem (FVT)
  - Response to disturbance
  - Small plant uncertainty and sensitivity
- Closed-loop architecture
  - Affects pole locations
  - Reduces the effect of a disturbance
  - Reduces the effect of small plant uncertainty