

**EE 380**

# **Linear Control Systems**

## **Lecture 10**

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# Lecture 10 Topics

- Stability Definitions
- Methods for Determining Stability

# Types of Stability

- Internal Stability
  - Describes behavior of state variables
  - Determined by
    - Roots of the characteristic equation
    - Eigenvalues of the system matrix
- External Stability
  - Describes input-output behavior
  - Determined by
    - Impulse response function
    - Transfer function poles