



**EECS 16B**  
**Designing Information Devices and Systems II**

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# Module 11: Filters and Bode Plots

EECS 16B

# Summary

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- Transfer Functions
  - Poles / Zeros
  - Magnitude / Phase
- Low-Pass and High-Pass
- Integrator / Differentiator
- Bode Plots
  - Sum of low/high-pass and integrators/differentiators
- Examples

# Review: Transfer Functions

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- Poles/zeros

# Transfer Functions

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- dB scale (-3dB point)
- “Cutoff”

# Low Pass Bode Plot

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# High Pass Bode Plot

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# Integrator Bode Plot

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# Differentiator Bode Plot

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- Review passive sign convention

# General Transfer Function Bode Plot

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# Magnitude dB Plot

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# Phase Plot

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# Example: Oscilloscope Input Stage

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