

# Key Concepts for Studio Midterm Exam

- Basics of the Analog Function Generator, Digital Oscilloscope, Digital Multimeter, DC Power Supply, Breadboard
- Measurement of voltage, current, resistance, and capacitance; components in series and parallel; voltage-divider-circuit and low-pass-filter time and frequency response
- Use of the NI USB MyDAQ and the virtual instruments function generator, oscilloscope, and bode plotter
- Loading of systems (circuits) by a load or measuring device: understanding and methods to predict and then reduce / eliminate loading
- Op-Amps: Buffer, Inverting, Non-Inverting, Difference, PI Controller, Active Low-Pass Filter
- Correspondence between circuit schematic and real system