



## **EL 351 Linear Integrated Circuits**

**By:** Walter Banzhaf  
University of Hartford  
Ward College of Technology

### **Objective**

This is a comprehensive, in-depth technical course in Linear Integrated Circuits. The insights provided by this course will allow students to understand a wide range of applications of op-amps and linear integrated circuits in both analog and digital circuits. The laboratory part of this course reinforces the important basics of op-amps and fundamental circuits that utilize them.

### **Equipment**

- Agilent 54622A Deep-Memory Oscilloscope
- Agilent E3631A Triple output DC power supply
- Agilent 33120A Function Generator
- Agilent 34401A Digital Multimeter

### **Experiments**

- EL 351 Syllabus
- Lab 1: Lab Equipment Familiarization & Basic Op-Amp Review
- Lab 2: BJT Differential Amplifier
- Lab 3: Op-Amp DC Parameters Determination
- Lab 4: Gain-Bandwidth Product & Slew Rate
- Lab 5: Inverting and Differential Summing Amplifiers
- Lab 6: Continuously Adjustable Noninverting/Inverting Amplifier Circuit
- Lab 7: Design of a Signal Conditioning Circuit
- Lab 8: Testing Integrators and Differentiators
- Lab 9: Design and Test of Digital-to-Analog Converters
- Lab 10: Absolute Value Circuit?
- Lab 11: Sample and Hold Integrated Circuit and Test
- Lab 12: Active Filter Design and Test