Electronics Laboratory I, Syllabus

Summary

An introduction to analog and digital electronic circuits. Six scheduled hours a week, including one lecture and one quiz. Most scheduled time is spent in the electronics laboratory assembling and testing electronic circuits. Students should expect to spend another six hours outside class studying the material, preparing for the labs, and consulting the instructors with their questions. Office hours and additional laboratory time will be available.

Topics

1. Voltage, Current, and Resistors
2. Capacitors, Inductors, and Impedance
3. Frequency Response and Step Response
4. Diodes and Rectification
5. Transformers and Power Supplies
6. Transistors and Audio Amplifiers
7. Oscillators and Sirens
8. Operational Amplifiers
9. Combinatorial Logic
10. Light Emitting Diodes
11. Clocks, Counters, and Converters
12. Amplitude-Modulated Radio Reception

Tools


For Laboratory Work: electronic components, wires, wire cutters, oscilloscope, voltmeter, breadboard, function generator, and power supply.

For Analysis: calculators and spreadsheets.