## **Electronics Workshop Lab**

The Electronics Workshop Lab is designed to give undergraduate students hands-on experience with the basics of analog and digital electronics. It plays an important role in helping students connect what they learn in the classroom with real-world applications. By working directly with electronic components and lab instruments, students get to build, test, and troubleshoot actual circuits—turning theory into practice in a meaningful and engaging way.

In this lab, students explore a wide range of experiments related to circuit design and analysis. They work with breadboards and digital trainer kits to create both analog and digital circuits, using tools like multimeters, function generators, and DC power supplies. These practical sessions help students understand how components like resistors, capacitors, transistors, and ICs behave in real circuits. The focus is on learning by doing—building logic circuits, observing waveforms, and verifying whether a circuit performs as expected.

Beyond technical skills, the lab also helps students develop confidence in handling tools and solving practical problems. By the end of the course, students are expected to identify common components, measure and analyze circuit behavior, and troubleshoot any issues they encounter. They also learn to follow good lab practices, including safety and careful handling of equipment. Overall, the lab is a key part of their learning journey, preparing them for more advanced electronics courses and real-world engineering challenges.

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