

PREFACE

The **EE 204: Fundamentals of Electric Circuits** Lab is intended to teach the basics of Electrical Engineering to undergraduates of other engineering departments. The main aim is to provide hands-on experience to the students so that they are able to put theoretical concepts to practice.

The manual starts off with the basic laws such as Ohm's Law and Kirchhoff's Current and Voltage Laws. The two experiments augment students' understanding of the relations of voltage and current how they are implemented in practical life.

Computer simulation is also stressed upon as it is a key analysis tool of engineering design. PSPICE is used for simulation of electric circuits and is a standard tool at numerous universities and industries of the world. The simulated parameters are then verified through actual experiment. Use of oscilloscopes is also stressed upon as analysis tool.

The important theorems of Thevenin and Norton are also provided along with the frequency domain analysis of circuits. They greatly simplify the complex electrical networks for analysis purposes.

At the end, the students should be able to grasp the concepts thoroughly the electric circuits and able to apply them further in their field of study.