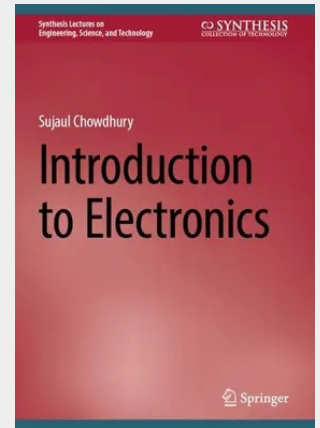


Introduction to Electronics

This book uniquely examines basic electronics from a physics perspective and introduces electrical circuits, components, and basic circuit analysis in a self-contained manner. Beginning with an understanding of Ohm's law, the author covers the use of series resistor circuits as potential dividers, parallel resistor circuits as current dividers, and reduction of series-parallel combination circuits. Kirchhoff's current and voltage laws and their use in branch current method (called standard method) are discussed, and alternating currents, responses of resistors, capacitors, and inductors are examined. The p-n junction and its uses are presented in detail, using energy band models, and n-type and p-type doping of the semiconductor crystal is also incorporated. The author concludes with coverage of the Bipolar Junction Transistor (BJT), the Junction Field Effect Transistor (JFET), and the Metal Oxide Semiconductor Field Effect Transistor (MOSFET). This class-tested, concise, and coherent book is ideal for a one-semester undergraduate course on basic electronics, and the only prerequisite is a course on Electricity and Magnetism.

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