

**Course Title: Discovery and Diagnostics on  
Electrical and Electronics**

**Course Code: EEA 140**

**Course Background / Summary:**

The concepts of electrical & electronics are mysterious. In this course, participants will be guided to discover the mysterious world of electrical & electronics. The complexity of electric circuits will be simplified, the electrical energy that flows in electrical devices will expose, and electrical & electronics theory as tomorrow's solutions will be innovated.

**Course Objectives:**

- Recognize interrelationship between electrical & electronics and another field
- Define voltage, current, and power.
- Measure and troubleshoot using appropriate tools.
- Design and fabricate electrical and electronic circuits.

**Target Audience:**

- Electricians, Technicians, Engineers, Instructors

**Course Duration: 3 Days**

**Course Contents**

**1.0 Theory Subjects**

- Circuits, Currents, and Voltages
- DC Voltage
- AC Voltage
- Resistive Circuit
- Inductance and Capacitance
- Power and Energy
- Logic Circuits
- Operational Amplifiers
- Diode, Power Transistors

**2.0 Practical Tasks**

- Measurement Techniques
- Resistor Color Code
- Soldering Skills
- Practical on Oscilloscope
- Fabricate and Diagnose Basic Power Supply
- Design and Simulate a Digital Circuit