

# Introduction to Electrical Works

## Applying for this course:

To apply for this course, you should have completed compulsory schooling.

## Course Duration

This course is of 21 hours duration.

## General pedagogical guidelines and procedures for this course:

The delivery of this course will be mainly held through a mix of classroom sessions and workshop sessions.

The learner will not be assessed at the end of the course and will be eligible for a Confirmation of Attendance indicating the hours attended.

## Topics to be covered:

Basic Principles of Electricity: Atoms, Electrons  
Electrical Materials: Conductors and Insulators  
Domestic Water System (relationship to Electricity)  
Electrical Terminology  
The scope of Electrical Safety.  
Theory: Ohm's law and the Power Triangle.

Electrical Supply: Single phase and three phase  
Electrical Voltage bands  
Colour codes of wires  
Types of earthing systems and components, TT system used in Malta.  
Client Service Supply and the Smart meter  
Practice: The electrician Toolbox, Wire an electrical plug and an electric kettle.

Components in a Basic Electric Circuits: Wires / Supply / Load.  
Control a Circuit by: Different types of switches and Isolators.  
Protection in a circuit by: Fuses / MCB / RCD / OVR.  
Diagrams how these function inside  
Practice: View and handle these various components.

The consumer unit complete with Domestic Circuits  
The Power circuits: Ring Power Circuit / Radial Power Circuit / Final Circuit.  
Practice: Simple construction of 3 socket

The Lighting Circuits: 1-way / 2-way / 3 way intermediate / Timer circuit for stairways.  
Types of lightbulbs  
Practice: Simple construction of 1 way and 2-way circuits

Special Locations:  
Bathrooms and kitchens  
Renewable Energy systems  
Solar water heater and The Solar PV systems  
Theory: Energy Saving and costings.

Health and safety recommendations