



Remove and Replace Electrical Components

Course Introduction:

This course provides theoretical knowledge essential for the safe and effective removal and replacement of electrical components in various systems. Participants will gain an understanding of electrical components, tools, safety protocols, and best practices necessary for maintenance and repair tasks.

Course Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Understand the types and functions of electrical components.
- Learn the principles of electrical circuits and systems.
- Familiarize with safe practices for handling electrical components.
- Develop skills in diagnosing issues related to component failure.
- Gain knowledge of relevant regulations and standards in electrical work.

Who Should Attend?

- Electrical engineers and technicians
- Maintenance personnel
- Facility managers and supervisors
- Safety and compliance officers

Course Outline:

Day 1: Introduction to Electrical Components

- **Session 1: Overview of Electrical Components**
 - Types of electrical components (resistors, capacitors, inductors, switches, etc.)
 - Functions and applications of each component
- **Session 2: Basic Electrical Theory**
 - Understanding voltage, current, resistance, and power
 - Ohm's Law and its applications in circuits

Day 2: Tools and Equipment

- **Session 1: Essential Tools for Electrical Work**
 - Overview of hand tools, power tools, and testing equipment
 - Proper use and maintenance of tools
- **Session 2: Safety Equipment and Protocols**

- Personal protective equipment (PPE) for electrical work
- Lockout/tagout procedures and their importance

Day 3: Safe Removal and Replacement Procedures

- **Session 1: Preparing for Component Removal**
 - Assessing the system and identifying components to be replaced
 - Importance of documentation and labeling during disassembly
- **Session 2: Removal Techniques**
 - Step-by-step procedures for safely removing components
 - Common challenges and how to address them

Day 4: Installation of New Components

- **Session 1: Preparing for Installation**
 - Inspecting new components for quality and compatibility
 - Understanding manufacturer specifications and guidelines
- **Session 2: Replacement Techniques**
 - Best practices for installing electrical components
 - Testing and verification procedures post-installation

Day 5: Troubleshooting and Compliance

- **Session 1: Diagnosing Component Failures**
 - Common signs of failure and how to diagnose issues
 - Techniques for troubleshooting electrical systems
- **Session 2: Regulations and Standards**
 - Overview of relevant electrical codes and standards (e.g., NEC, IEC)
 - Importance of compliance in electrical work

Conclusion

- Recap of key concepts and procedures covered in the course
- Discussion on the importance of proper removal and replacement practices
- Q&A session to address specific participant queries

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session