



شركة ميرك العربية السعودية  
MEIRC Saudi Arabia

## Grounding and Bonding

**Duration 5 Days**

### Introduction

This course is a must for technicians, engineers, and inspectors to provide a thorough understanding of fundamental grounding technologies and requirements of the National Electrical Code &. Topics such as Grounding Fundamentals, Grounding and Bonding for Safety of Personnel, Grounding Electrical Systems, Grounding Electrodes, Bonding Equipment, Grounding Conductors

### Who Should Attend

This course is a must for technicians, engineers, and inspectors

### Course Objectives

- 1- Understanding of fundamental grounding technologies
- 2- Understanding of requirements of the National Electrical Code
- 3- Applying safety rules in their work.
- 4- Using grounding equipment

### Course Outlines:

- I. Introduction
  - A. Schedule
  - B. Course Outline
- II. Grounding Concepts
  - A. General Fundamentals
  - B. Ground or Not-Ground
  - C. Grounding Electrical Systems
  - D. Service and Main Bonding
- III. Grounding Systems
  - A. Grounding Electrodes
  - B. Grounding Electrode Conductors
  - C. Bonding Enclosures and Equipment
  - D. Equipment Grounding Conductors
  - E. Enclosure and Equipment Grounding
- IV. Grounding for Fault and Short Circuit
  - A. Clearing Faults
  - B. Separately Derived Systems
  - C. Grounding and Bonding Separate Structures
  - D. Ground Fault Circuit Interrupter (GFCI)
  - E. Ground Fault Protection (GFP)
- V. Grounding and Bonding Special Locations and Conditions
  - A. Special Locations and Conditions
  - B. Electronic Equipment
  - C. Low-Voltage Intersystem Grounding and Bonding
  - D. Medium-Voltage Systems
  - E. Ground Fault Protection (GFP)
- VI. Fundamentals of Lightning Protection



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- A. Industry Standards
- B. Components of Protection
- C. Conductor Sizing
- D. Equipotential Bonding
- VII. Connection To Earth
  - A. Resistance of the Earth Connection
  - B. Grounding Electrodes
  - C. Earth Resistance Measurements
  - D. Corrosion
- VIII. Conclusion
  - A. Course Review
  - B. Examination