MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

EARTHING AND LIGHTNING SYSTEMS DESIGN

"Protect People and Assets with Reliable Earthing and Lightning Protection Systems"

Schedule

Date	Venue	Fees (Face-to-Face)
23 – 24 Jun 2026	Doha, Qatar	USD 1995 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Proper earthing and lightning protection are essential for the safety, reliability, and longevity of electrical systems. This course provides participants with the technical knowledge and practical skills required to design, implement, and maintain effective earthing and lightning protection systems. Participants will gain a thorough understanding of the latest international standards, design techniques, and best practices for safeguarding personnel, equipment, and infrastructure.

Through interactive sessions, practical exercises, and real-world case studies, attendees will learn how to analyze site conditions, select appropriate materials, and design systems that meet regulatory requirements and ensure operational safety. The course emphasizes practical strategies to prevent electrical hazards and mitigate risks from lightning strikes and fault currents.

Objectives

By the end of this course, participants will be able to:

- Understand the fundamentals of earthing and lightning protection systems.
- Design earthing systems for electrical installations based on international standards.
- Implement lightning protection systems for buildings, industrial plants, and critical infrastructure.
- Conduct site assessments and analyze soil resistivity for proper grounding design.
- Ensure compliance with IEC, IEEE, and other relevant codes and standards.
- Apply best practices to enhance safety, reliability, and equipment protection.

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Why Attend

Participants should attend this course to:

- Gain practical knowledge of earthing and lightning protection system design.
- Improve safety and minimize risk of electrical hazards.
- Ensure compliance with international standards and regulations.
- Learn how to conduct accurate site assessments and system testing.
- Apply engineering best practices for effective protection of personnel and assets.

Target Audience

This program is designed for:

- Electrical engineers and project managers
- Safety and maintenance engineers
- Consultants and designers involved in electrical installations
- Facility managers and technical supervisors
- Professionals responsible for lightning and grounding system safety

Individual Benefits

Key competencies that will be developed include:

- Designing earthing and lightning protection systems in compliance with standards
- Conducting soil resistivity measurements and site analysis
- Selecting materials and components for reliable grounding
- Performing risk assessment and system verification
- Implementing preventive measures to safeguard personnel and equipment

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved safety and reduced risk of electrical accidents
- Reliable earthing and lightning protection systems for critical infrastructure
- Enhanced compliance with international electrical standards
- Minimized equipment damage and operational downtime
- Stronger organizational capability in electrical safety and protection

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of earthing principles, lightning protection, and relevant standards
- Case Studies – Real-world examples of earthing and lightning protection system implementation
- Workshops – Hands-on exercises for system design, testing, and site assessment
- Peer Exchange – Group discussions on challenges, lessons learned, and best practices
- Tools – Templates, calculation sheets, and design guides for grounding and lightning protection

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals and Earthing Design

Module 1: Introduction to Earthing Systems (07:30 – 09:30)

- Purpose and importance of earthing
- Types of earthing systems and applications
- Key standards: IEC, IEEE, and local regulations

Module 2: Soil Resistivity and Site Assessment (09:45 – 11:15)

- Measuring and analyzing soil resistivity
- Designing grounding electrodes and systems
- Mitigating soil-related challenges

Module 3: Design and Implementation (11:30 – 01:00)

- Earthing system design principles
- Material selection and installation practices
- Testing and validation of earthing systems

Day 2: Lightning Protection and Safety Management

Module 4: Lightning Protection Systems (07:30 – 09:30)

- Principles of lightning strikes and risk assessment
- Design of external and internal lightning protection systems
- Integration with earthing and building infrastructure

Module 5: Standards, Testing, and Maintenance (09:45 – 11:15)

- Compliance with international codes and best practices
- Inspection, testing, and maintenance of systems
- Troubleshooting and corrective measures

Module 6: Practical Exercises and Case Studies (11:30 – 01:00)

- Hands-on design and calculation exercises
- Review of real-world lightning and grounding incidents
- Action plan for implementing effective earthing and lightning protection systems

Certification

Participants will receive a Certificate of Completion in Earthing and Lightning Systems Design, validating their expertise in designing, implementing, and managing safe and reliable grounding and lightning protection systems.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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