MAWA EVENTS

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

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

DESIGN, INSTALLATION AND MAINTENANCE OF ELECTRICAL SYSTEMS AND COMPONENTS

"Ensuring Safe, Efficient, and Reliable Electrical Infrastructure"

Schedule

Date	Venue	Fees (Face-to-Face)
25 – 27 Aug 2026	Doha, Qatar	USD 2495 per delegate

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

Introduction

Modern electrical systems form the backbone of industrial, commercial, and infrastructure facilities. Proper design, installation, and maintenance are critical to ensuring safety, operational efficiency, regulatory compliance, and long-term reliability. Errors or deficiencies in any of these stages can result in equipment failures, energy losses, safety hazards, and costly downtime.

This intensive 3-day training provides participants with a comprehensive understanding of electrical system design principles, installation best practices, and effective maintenance techniques. The course integrates international standards, practical examples, and hands-on discussions to enable participants to manage electrical systems and components confidently throughout their lifecycle.

Objectives

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

- Understand fundamental principles of electrical system design
- Interpret electrical drawings, schematics, and specifications
- Apply best practices for installation of electrical systems and components
- Identify common installation and design errors and how to avoid them
- Implement preventive and corrective maintenance strategies
- Enhance electrical safety and compliance with international standards
- Improve system reliability, efficiency, and asset lifespan

MAWA EVENTS

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

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

Why Attend

- Gain practical knowledge of electrical system design and installation
- Learn industry best practices aligned with international standards
- Reduce electrical failures, hazards, and unplanned outages
- Improve maintenance planning and troubleshooting capabilities
- Enhance safety awareness and regulatory compliance
- Strengthen technical competence in electrical systems management

Target Audience

This program is designed for:

- Electrical engineers and design engineers
- Maintenance and reliability engineers
- Electrical technicians and supervisors
- Facilities and operations engineers
- Project engineers and site supervisors
- Industrial, commercial, and infrastructure professionals

Individual Benefits

Key competencies that will be developed include:

- Strong understanding of electrical system design fundamentals
- Ability to evaluate installation quality and compliance
- Enhanced troubleshooting and fault analysis skills
- Improved maintenance planning and execution
- Greater awareness of electrical safety requirements
- Professional growth in electrical engineering and maintenance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved safety and reliability of electrical systems
- Reduced operational risks and equipment failures
- Enhanced compliance with codes, standards, and regulations
- Optimized energy efficiency and system performance
- Extended service life of electrical assets
- Improved project execution and maintenance effectiveness

Instructional Methodology

The course follows a blended learning approach combining theory with practical application:

- Technical Briefings – Electrical design principles, standards, and system architecture
- Case Studies – Real-world installation issues and maintenance challenges
- Workshops – Design reviews, fault analysis, and maintenance planning exercises
- Peer Exchange – Group discussions on operational experiences and best practices
- Tools – Checklists, design guidelines, maintenance templates, and safety procedures

MAWA EVENTS

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

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

MAWA EVENTS

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

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

Course Outline

Detailed 3-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: Electrical System Design Fundamentals

Module 1: Overview of Electrical Systems (07:30 – 09:30)

- Electrical system components and configurations
- Power generation, distribution, and utilization
- Applicable international standards and codes

Module 2: Electrical Design Principles

- Load calculations and demand assessment
- Cable sizing, voltage drop, and short-circuit calculations
- Protection coordination and selectivity

Module 3: Electrical Drawings and Documentation

- Single-line diagrams and layout drawings
- Specifications and design documentation
- Design review and common errors

Day 2: Installation of Electrical Systems and Components

Module 1: Installation Best Practices

- Installation of cables, panels, switchgears, and equipment
- Earthing and bonding systems
- Environmental and site considerations

Module 2: Testing, Commissioning, and Inspection

- Pre-commissioning checks
- Electrical testing and measurements
- Acceptance criteria and documentation

Module 3: Electrical Safety During Installation

- Safe work practices and risk assessments
- Lockout/Tagout (LOTO) procedures
- Compliance with safety regulations

Day 3: Maintenance, Troubleshooting, and Reliability

Module 1: Electrical Maintenance Strategies

- Preventive, predictive, and corrective maintenance
- Maintenance planning and scheduling
- Maintenance documentation and records

Module 2: Fault Diagnosis and Troubleshooting

- Common electrical faults and failure modes
- Diagnostic tools and techniques
- Root cause analysis

Module 3: Reliability Improvement and Lifecycle Management

- Asset management and condition monitoring
- Energy efficiency and system optimization
-

Continuous improvement and best practices

Certification

Participants will receive a Certificate of Completion in Design, Installation and Maintenance of Electrical Systems and Components, validating their technical knowledge and practical competence in managing electrical systems safely, efficiently, and in compliance with international standards.

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.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

Follow us: **Facebook** **Twitter** **YouTube** **LinkedIn** **Instagram**

© Material published by MAWA Events shown here is copyrighted. All rights reserved. Any unauthorized copying, distribution, use, dissemination, downloading, storing (in any medium), transmission, reproduction or reliance in whole or any part of this course outline is prohibited and will constitute an infringement of copyright.