XCELERATE TRAINING INSTITUTE

your learning & development partner

ELECTRICAL ENGINEERING

Electrical Installation, Wiring and Maintenance Training

DURATION	LANGUAGE	FORMAT
5 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
15 – 19 Mar 2027	Live online	Online (live)	**€1,200**
26 – 30 Apr 2027	Barcelona	Classroom	**€3,600**
27 Sep – 1 Oct 2027	Live online	Online (live)	**€1,200**

Register or ask a question

Online: x8ti.com/course/electrical-installation-wiring-and-maintenance-train…

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Electrical Installation, Wiring and Maintenance Training

Introduction

The Electrical Installation, Wiring, and Maintenance Certification course is designed around key principles essential for understanding the standards of electrical wiring systems. This course covers aspects like calculating power demand and earth fault currents, providing vital information to ensure the safety and security of electrical systems.

Learning Objectives

Upon completing this course by Xcelerate Training Institute, participants will be able to:

- Explain the basics of operating and setting up electrical wiring systems.
- Select appropriate types and ratings of electrical wiring systems.
- Understand the requirements for the safe use of electrical equipment and systems.
- Comprehend various earthing mechanisms and their importance for safety.
- Perform calculations to check the suitability of conductors and protective earthing elements.
- Specify electrical system testing procedures.
- Conduct periodic checks and verification for compliance.
- Develop simple operational policies for safety guidelines.
- Create realistic maintenance strategies for electrical wiring systems.

Training Methodology

This interactive training program includes:

- Lectures
- Seminars & Presentations
- Group Discussions
- Assignments
- Demonstrations
- Case Studies & Functional Exercises Following the ‘Do-Review-Learn-Apply’ model.

Benefits for Your Organisation

Organizations can benefit from:

- A more skilled workforce equipped to manage electrical wiring.
- Effective electrical wiring plans tailored to organizational requirements.
- Reduced downtime due to efficient risk management.
- Lower expenses and losses due to enhanced safety standards.
- Higher compliance with global safety standards.
- Improved brand image through adherence to international safety policies.
- Better crisis management and business continuity processes.

Benefits for You

Participants will gain:

- Hands-on electrical wiring skills on a mobile workstation.
- Comprehensive wiring skills as a foundation for higher certifications.
- Expanded electrical wiring abilities to stay ahead in the field.
- Contribution to effective risk and crisis management within the organization.
- Training, assessment, and certification by experts in the domain.
- A tailor-made academic program for technicians or equivalent workforce.
- Professional qualification at a competitive cost.

Who Should Attend

This course is ideal for:

- Technicians or equivalent employees in the electricity sector.
- Electrical technicians.
- Engineers, supervisors, and other technical individuals needing fundamental knowledge of electrical wiring.
- Stakeholders in the power industry, whether as consumers, employees, or job seekers.

Course Outline

Overview and Introduction

- Earthing and its importance in safety.
- Variety and installation of wiring systems.
- Range and installation of electrical equipment and safety concerns.
- Testing and verification.

Insulation of Electrical Systems and Its Role in Safety

- Function of electrical protection.
- Role of electrical insulation.
- Liquid and solid dielectrics.
- Insulation class and temperature evaluations.
- Calculating demand for suitable conductor sizing.

Earthing of Electrical Systems

- Methods of system earthing.
- The need for earthing electrical systems.
- Protective earthing at the load.
- System earthing at the source.
- Equipotential bonding.

Earth Fault Detection and Protection

- Earth fault loop impedance.

- Calculating earth fault current.
- Earth fault sensing techniques.
- Limits of LV feeder lengths for appropriate earth fault detection.

General Arrangement, Control, and Protection

- Fault protection against overcurrent.
- Arrangement of electrical installation.
- Switchboards.
- Additional protection by residual current devices.
- Safety against undervoltage and overvoltage.
- Protection against fire threats due to arcing faults.
- Control of electrical installation.

Selection and Installation of Wiring Systems

- Sizing of conductors.
- Installation.
- Types of wiring systems.
- Current-carrying capacity.
- Aerial wiring systems.
- Voltage drop considerations in sizing.
- Earth sheath return systems.
- Busbar trunking systems and rising mains.
- Enclosure of cables.

Selection and Installation of Electrical Apparatus

- Protection against thermal effects.
- Connection of electrical equipment.

Earthing Provisions and Conductors

- Earthing of equipment.
- Earthing functions and arrangements.
- Equipotential bonding.
- Earth fault loop impedance.
- Multiple Earthed Neutral (MEN).

Damp Situations

- Fountains.
- Saunas.
- Baths, showers, fixed containers.
- Pools and tubs.
- Case studies.

Exceptional Electrical Installations

- Sites with baths, showers, or other damp situations.

- Visual inspection.
- Testing.
- Extra-low voltage electrical installations.
- High voltage electrical installations.
- Hazardous areas, emergency areas.

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Registration Form

Electrical Installation, Wiring and Maintenance Training

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

Call
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Email this form
info@x8ti.com

Register online
Open the course page