XCELERATE TRAINING INSTITUTE

your learning & development partner

ELECTRICAL ENGINEERING

Electrical Drawings and Schematics Course

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
17 – 21 May 2027	Live online	Online (live)	€1,200
22 – 26 Nov 2027	Live online	Online (live)	€1,200
27 – 31 Dec 2027	Madrid	Classroom	€4,800

Register or ask a question

Online: x8ti.com/course/electrical-drawings-and-schematics-course-2/

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Electrical Drawings and Schematics Course

Introduction

In the realm of equipment maintenance, connection, or modification, the ability to read and interpret electrical drawings is essential. This course on Electrical Drawings and Schematics covers the creation of detailed electrical drawings, sets, and documentation, including protected working practices and the use of advanced computer-aided design systems.

Learning Objectives

Upon successful completion of this course by Xcelerate Training Institute , participants will be able to:

- Create detailed electrical drawings, including circuit and wiring diagrams, schematics, and panel layouts.
- Identify components and materials from supplier catalogs.
- Professionally design and draft electrical drawings and documentation.
- Produce final drafts for verification.
- Prevent and handle critical issues with confidence.
- Gain practical knowledge through case study sessions, enhancing their workplace advantage.

Training Methodology

This interactive training program utilizes a variety of methods including:

- Lectures
- Seminars and presentations
- Group discussions
- Workshops
- Expert seminars
- Individual and group assignments
- Practical demonstrations
- Case studies and functional exercises

Benefits for Your Organisation

Organizations that send their employees to this course will benefit from:

- Employees equipped to prevent design issues and draw accurate electrical diagrams.
- Skilled professionals who can effectively design and draft electrical systems.
- Increased employee satisfaction through professional development.
- A competitive edge in the industry due to more efficient processes.
- Optimized operations management and reduced maintenance costs.
- Potentially higher profits from reduced costs and better investment opportunities.
- Tailored content to meet the organization's specific needs.

Benefits for You

Participants will gain:

- Understanding and use of computer-aided design systems for drafting.
- Knowledge of electrical equipment design methods, techniques, and documentation.
- Skills to digitize and accurately draft data.
- Efficient methods for storing and retrieving drafting data.
- The ability to produce related documentation for presentations.

Who Should Attend

This course is suitable for:

- Electricians
- Facility Managers
- Non-Electrical Engineers
- Building Engineers
- HVAC Technicians
- Machine Operators
- Apprentices
- Mechanical Engineers
- Alarm Technicians
- Instrumentation Engineers
- Stationary Engineers
- In-house Training Personnel

Course Outline

Electrical Drawings

- Importance of drawings in engineering
- Standards and necessity
- CAD and drawing standards
- Drawings in plant engineering and manufacturing
- Typical engineering drawing components

Two Dimensional Drawings

- Types of electrical layout drawings
- Area classification and wiring diagrams
- Drawing scales and block diagrams
- Symbols and their standards

Line & Logic Diagrams

- Power and control circuit diagrams
- Commonly used symbols and applications

- Single and three-line diagrams
- Schematic diagram purposes and cross-references
- Practical exercises in logic diagrams

Cabling, Wiring Layout, and Cable Schedule

- Types of cabling and wiring drawings
- Cable routing and layout examples
- Cable tray installation and conventions
- Practical exercises in wiring drawings

CAD & Drawing Process Flow

- Automated bill of materials generation
- Drawing management system
- Symbol attributes and planning
- Introduction to CAD and its capabilities
- Use of symbol libraries in hazardous area zones

AC Motor Designs

- Interpretation of torque speed curves
- Principles of AC induction motors
- Applications for single-phase motors

AC Motor Control

- Design requirements for AC motors
- AC motor specifications and control components
- Governance by design standards

DC Motors

- Speed measurement and principles of DC motors
- Traditional brushed and electronically driven brushless motors

DC Motor Control and Stepper Motors

- Hands-on experience with DC motor control
- Operation of stepper motor drives
- Comparison of DC vs. AC motors

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Registration Form

Electrical Drawings and Schematics Course

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: .....

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