

AutoCAD Electrical Design

A professional electrical design course covering complete electrical drafting for residential, commercial, and industrial projects using AutoCAD. Students master electrical standards, power distribution, lighting design, panel design, load calculations, and professional documentation used by MEP firms and EPC companies.

Duration 6 Months	Training Mode Offline Classroom Training	Certification Industry Certificate	Practical Labs 100% Hands-on
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Tools & Tech: AutoCAD • AutoCAD Electrical Standards • IEC & IS Standards

Detailed Course Curriculum & Modules

MODULE 01 | Electrical Engineering Fundamentals

- AC & DC Fundamentals, Voltage, Current, Power & Energy
- Single Phase & Three Phase Systems
- Indian Electrical Standards (IS) & National Electrical Code (NEC)
- Electrical Symbols, Abbreviations & Drawing Standards
- Components: Switches, MCB, MCCB, RCCB, Contactors, Relays & Transformers
- Motors, Generators, Busbars & Earthing Systems

MODULE 02 | AutoCAD for Electrical Drafting

- AutoCAD Interface, Workspace & Drawing Setup
- Layers, Templates, Coordinate Systems & Object Properties
- Drawing & Editing Tools, Precision Drawing & Dynamic Input
- Annotation, Blocks, Dynamic Blocks & External References
- Model Space, Paper Space, Viewports & Plotting Standards

MODULE 03 | Electrical Drafting & Layouts

- Standard Electrical Symbols (IEC & IS) & Legend Preparation
- Residential: Lighting, Power, Fan, Socket & Distribution Board Layouts
- Cable Routing, Conduit Layout & Load Schedules
- Commercial: Office, Hotel, Hospital & Shopping Mall Electrical Design
- Emergency Lighting & UPS Distribution Layouts

MODULE 04 | Power Distribution & Cable Design

- Power Distribution Concepts & Incoming Supply
- MDB, SDB & FDB — Distribution Panel Design
- Cable Types, Sizing, Routing & Voltage Drop Calculation
- Cable Trays, Conduit Systems & Cable Scheduling
- Circuit Protection: MCB, MCCB & RCCB Selection
- Short Circuit & Overload Protection Design

MODULE 05 | Lighting Design

- Types of Lighting & Lux Level Standards
- Indoor, Outdoor & Emergency Lighting Design
- Fixture Selection, Lighting Distribution & Switching Circuits
- Load Calculation, Energy Efficient & LED Lighting Design

MODULE 06 | Panel Design & Control Systems

- Control Panel, Power Panel & Distribution Panel Design
- Motor Control Center (MCC) & Power Control Center (PCC)
- Motor Starters: DOL & Star-Delta, Relay Logic & Timer Circuits
- Single Line Diagrams (SLD): Power Flow, Transformer & Generator SLD

MODULE 07 | Load Calculation & Estimation

- Connected Load, Demand Load & Maximum Demand
- Diversity Factor, Power Factor & Load Balancing
- Cable & Conduit Quantity Estimation
- BOQ Preparation, Material & Cost Estimation

MODULE 08 | Earthing, Protection & Documentation

- Earthing Design: Types, Earth Pit Design & Earth Resistance
- Lightning Arresters, Surge Protection & Grounding Network
- Industrial Electrical Layout & Machine Power Distribution
- Working Drawings, Panel Schedules, Cable Schedules & BOQ
- As-Built Drawings, Tender Drawings & Project Documentation

Practical Projects & Industry Capstones

- Residential Electrical Layout
- Villa Electrical Design
- Commercial Office Electrical Design
- Shopping Complex Electrical Layout
- Industrial Factory Electrical Layout
- Lighting Design Project
- Single Line Diagram (SLD)
- Electrical Panel Layout
- Earthing System Design
- Electrical Estimation & BOQ
- Complete Electrical Working Drawing Set

■ Industry Certification

Authorized certificate verified globally via online portal.

■ 100% Placement Support

Resume review, mock interviews, and recruiter connections.

■ Lab Access & Mentorship

Dedicated workstation lab hours with expert guidance.