

ELECTRICAL DESIGN AND LIGHTING DESIGN COURSE

Internship Duration: 1 Month

- Who Can Apply: Mechanical/Electrical/Civil/B.E / B.Tech / M.Tech / Diploma Students.
- Software & Other tools installation Guidance.
- During Training Trainee will be working on Real time Project.

About Course:

An **Electrical Design** course focuses on the planning, design, and implementation of electrical systems in residential, commercial, and industrial buildings. It covers a range of topics from electrical theory to practical applications like wiring, lighting, power distribution, and safety measures. The course emphasizes understanding building codes, electrical standards, and using design tools such as AutoCAD and Revit for electrical layouts.

Know your designing skills by enrolling to this Electrical Design Course. Gain knowledge from scratch. Learn as a beginner and grow as an expert with Princeton's ELECTRICAL Design Training. Using Electrical Infrastructure design and Lighting design training you can create well designed, Schools Colleges Airport Mall projects. This Electrical Design training helps you to learn and implement real time projects as well and also accelerate in making good career scope for yourselves in the core Electrical field.

Career Paths:

Graduates of an electrical design course can pursue careers such as:

- Electrical Engineer or Designer
- Power Systems Engineer
- Building Services Engineer
- Project Manager for Electrical Installations
- Electrical Consultant

- Electrical Inspector

Course Curriculum:

Introduction into the Field of MEP

- Introduction to electrical design
- Why electrical in MEP design?
 - Codes & standards NBC, IEC, IS, N EC, DEWA, ADEWA, NEMA
- Understanding building orientation
- Types of AutoCAD plans
- Luminaire calculation.
- Introduction to lighting system.
- Concepts of lighting design.

Selection of lux for lighting design.

- Room index calculation.
- Manual calculation for Interior lighting
- Practical example on lighting design.
- Ceiling fan selection
- Exhaust fan selection
- Socket selection
- conditioning system.
 - Relux or Dialux software for lighting design
- Relux software for interior lighting design
- Relux software for exterior lighting design
- Relux software for street lighting design

- Electrical load calculation
- Estimate the total connected load (w or kw)
- Calculate the total demand (w or kw).
- Importance of circuits
- Circuit types
- Light circuit design.
- Power circuit design.
- Introduction to circuit breakers.
- Properties and types of circuit breakers.
- Circuit breaker selection
- Power network Distribution
- Importance of phase distribution
- When to select single phase and three phase
- Load distribution to each phase
- Balancing 3 phases
- Distribution board design
- Introduction to Distribution boards
- Distribution board wiring
- Selection of Distribution board
- Types of Distribution boards
- Distribution board sizing
- Selection of cables
- De-rating current calculation
- Cable sizing
- Voltage drops calculation (VD)

- Selection of cable insulation
- Conduits and cable tray, Conduit types, Conduit sizing
- Different types of cable tray, Cable tray sizing

Transformer selection, Brief introduction to transformers

- Types of transformers, Types of transformer connection
- Transformer sizing (kva)
- Diesel Generator design, need for a Dg, Working of Dg
- Diesel tank sizing
- Power factor improvement
- Why power factor to be improved?
- Difference between reactive power and real power, Need for reactive power
- Capacitor bank sizing
- Inverter sizing
- Battery sizing using DOD values
- solar Panel sizing
- Lightning protection
- To calculate the total coverage area
- Lightning protection design
- Termination of lightning protection
- Need for earthing in power system
- Types of earthing
- Earthing pit designing
- Earthing system design
- Earthing cable sizing