



➤ **Brief Description**

- ✚ Be able to understand basic ACAD concepts and Design tools.
- ✚ Be able to understand basic ACAD Electrical Concepts and Design tools.
- ✚ Benefits of Electrical-Specific CAD. Why to Move from ACAD to ACAD Electrical.
- ✚ Be able to interpret and understand electrical systems drawings.
- ✚ Be able to understand international standard symbols libraries i-e JIC, IEC, GB, JIS and AS.
- ✚ Be able to understand Automation in ACAD-Electrical i-e Automatic Wire Numbering, Component Tagging, Project Reports, BOM, Real Time error checking, PLC I/Os, Automatic Tracking of components parts etc.

➤ **Course Documentation**

- ✚ Training Log
- ✚ Pre Course Exercises
- ✚ Course Exercises
- ✚ Post Course Exercises
- ✚ Complete Project Designing in ACAD.

➤ **Software installation and Setup**

- ✚ **AutoCAD Electrical**
- ✚ In this Course Students will learn the fundamentals of ACAD and ACAD Electrical Like create schematic drawings, panel drawings, and PLC/IO circuits using automated commands for symbol insertion, component tagging, wire numbering, and drawing modification. Students will be introduced to methods to customize AutoCAD Electrical symbols, circuits, and databases. Other topics

covered include title block linking, reporting tools, templates, and project files etc.

**Introduction to AutoCAD General**

✚ **Section 1: AutoCAD General Overview**

- ✚ ACAD General Environment
- ✚ ACAD General Control tools Panels.
- ✚ ACAD Drafting Design Tools and commands.
- ✚ ACAD Drafting Design Tools Controls

**Introduction to AutoCAD Electrical**

✚ **Section 1: AutoCAD Electrical Overview**

- ✚ • What is AutoCAD Electrical?
- ✚ • Drawing Files



- ✚ • Electrical Components and Wires
- ✚ • Design Methodologies in AutoCAD Electrical

## ✚ Section 2: Project Manager

- ✚ • Project Files
- ✚ • Project Manager Interface
- ✚ • Accessing Project Files

## ✚ Section 3: Projects and Drawing Files

- ✚ • Opening a Drawing
- ✚ • Create a Drawing
- ✚ • Add a Drawing to a Project File
- ✚ • Managing Drawings in Projects
- ✚ • Project Manager Drawing List

## Schematic Drawings

### ✚ Section 1: Schematic

#### Drawing formats

- ✚ • Ladder Style Diagrams
- ✚ • Point-to-Point Diagramming

### ✚ Section 2: Wires

- ✚ • Insert Wires

- ✚ • Edit Wires
- ✚ • Add Rungs
- ✚ • Wire Setup
- ✚ • Wire Numbers
- ✚ • Source and Destination Signal Arrows

## ✚ Section 3: Schematic Symbols

- ✚ • Symbols Libraries
- ✚ • Switching Between Libraries
- ✚ • Insert Component
- ✚ • Parent/Child Components
- ✚ • Components editing
- ✚ • Swapping Libraries
- ✚ • Linking Components

## ✚ Section 4: 3-Phase Circuits

- ✚ • 3-Phase Ladders
- ✚ • Multiple Wire Bus
- ✚ • 3-Phase Components
- ✚ • 3-Phase Wire Numbering

## ✚ Section 5: Cables

- ✚ • Cable Markers

- ✚ • Fan In/Out

## ✚ Section 6: Reusing Circuits

- ✚ • Circuit Builder
- ✚ • Insert Saved Circuits
- ✚ • Save Circuits to Icon Menu
- ✚ • W block Circuits
- ✚ • Move Circuit

## Editing Commands

### ✚ Section 1: Component

#### Editing

- ✚ • Edit Component
- ✚ • Project Task List
- ✚ • Scoot
- ✚ • Move Component
- ✚ • Copy Component
- ✚ • Align
- ✚ • Delete Component

### ✚ Section 2: Surfer Command

- ✚ • Surfer Command

### ✚ Section 3: Attribute Editing Commands



- ✚ • Copy Catalog Assignment
- ✚ • Copy Function-  
Installation/Location Values
- ✚ • Attribute Editing Commands

## Panel Drawings

- ✚ **Section 1: Panel Symbols**
- ✚ • Insert Footprint (Icon Menu)
- ✚ • Insert Footprint (Schematic List)
- ✚ • Insert Component (Panel List)
- ✚ • Edit Footprint
- ✚ **Section 2: Item Numbers  
and Balloons**
- ✚ • Assign Item Numbers
- ✚ • Add Balloons

## Terminals

- ✚ **Section 1: Terminal  
Schematic Symbols**
- ✚ • Insert Terminal Symbols
- ✚ • Multiple Level Terminals

- ✚ • Multiple Insert Component  
Command
- ✚ • Insert Jumpers

## ✚ **Section 2: Terminal Panel Footprints**

- ✚ • Terminal Strip Editor
- ✚ • DIN Rail Command

## PLC I/Os and Symbols

- ✚ **Section 1: PLC Symbols**
- ✚ • Insert PLC (Parametric)
- ✚ • Insert PLC (Full Units)
- ✚ • Insert Individual PLC I/O Points
- ✚ • PLC Based Tagging
- ✚ **Section 2: Spreadsheet to  
PLC**
- ✚ • Spreadsheet to PLC I/O Utility

## Point-to-Point Wiring Drawings

- ✚ **Section 1: Connectors and  
Splices**
- ✚ • Insert Connectors

- ✚ • Edit Connectors
- ✚ • Insert Splices

## ✚ **Section 2: Wiring Tools**

- ✚ • Insert Wires
- ✚ • Bend Wires

## Symbol Creation

- ✚ **Section 1: Symbol Builder**
- ✚ • Schematic Symbols
- ✚ • Naming Convention
- ✚ **Section 2: Icon Menu  
Wizard**
- ✚ • Icon Menu Wizard
- ✚ **Section 3: Databases**
- ✚ • AutoCAD Electrical Databases
- ✚ • Project Database
- ✚ • Catalog Database
- ✚ • Footprint Lookup Database
- ✚ • PLC Database
- ✚ • Pin List Database
- ✚ • Terminal Properties Database



**Title blocks**

**Section 1: Title block**

**Update**

- Update Title blocks

**Section 2: Configure Title blocks**

- Title block Setup

**Reporting Tools**

**Section 1: Schematic and Panel Reports**

- Create Reports
- Save to External File
- Put on Drawing

**Section 2: Automating Reports**

- Configure Report Templates
- Running Automatic Reports

**Section 3: Electrical Audit**

- Electrical Audit

**Templates and Attributes**

**Section 1: Project and Drawing Properties**

- Project Properties
- Drawing Properties
- Panel Drawing Configuration

**Section 2: Template Files**

- Template Files

**Section 3: Sharing Symbol Libraries and Databases**

- Sharing Symbol Libraries and Databases

**Drawing Update Tools**

**Section 1: Project-Wide Commands**

- Project-Wide Update/Retag

- Project-Wide Utilities

**Section 2: Plot Project**

- Plot Project

**Section 3: Export and Update from Spreadsheet**

- Export to Spreadsheet
- Update from Spreadsheet

**Section 4: Copy Project**

- Copy Project

**Section 5: Swap/Update Block**

- Swap/Update Block

**Section 6: Mark/Verify Drawings**

- Mark Drawings
- Verify Drawings