AV Design & AVCAD Professional Training

1. TARGET AUDIENCE:

This course is ideal for AV designers, AV engineers, system integrators, CAD professionals, BIM professionals, MEP engineers, electrical engineers, IT infrastructure professionals, project engineers, technical consultants, and anyone seeking to develop professional skills in AV system design and AVCAD. Whether you are new to AV Design or looking to enhance your design and documentation capabilities, this course provides a comprehensive foundation for designing modern AV solutions.

2. COURSE OBJECTIVE:

The AV Design & AVCAD Professional Training is a comprehensive course designed to equip learners with the knowledge and practical skills required to design, document, and manage professional Audiovisual (AV) systems using AVCAD. Through a structured learning approach, participants will gain an understanding of AV design principles, meeting room technologies, equipment layouts, cable routing, rack design, and project documentation. The course combines AV industry fundamentals with hands-on AVCAD exercises to enable participants to create complete AV system designs for commercial collaboration spaces.

3. COURSE OUTCOME:

By the end of this course, participants will:

- Gain a comprehensive understanding of AV technologies, AV system components, and professional AV design workflows.
- Learn to design AV systems for meeting rooms, conference rooms, boardrooms, training rooms, and auditoriums using industry best practices.
- Develop proficiency in creating equipment layouts, floor plans, cable routing, rack elevations, and project documentation using AVCAD.
- Acquire skills in managing equipment databases, project attributes, equipment schedules, cable schedules, and Bills of Materials.
- Enhance their ability to develop efficient, accurate, and well-documented AV system designs for commercial projects.
- Apply learned concepts and techniques to complete end-to-end AV design projects using AVCAD.

4. COURSE OUTLINE:

The course comprises **40 hours** of instructor-led theory and hands-on lab sessions and is divided into **8 modules**. Each module includes practical exercises covering AV design fundamentals, equipment layout, floor plan development, cable routing, rack elevation design, project documentation, and complete end-to-end AV system design using **AVCAD**.

Course Table of Contents

Module 1: AV Industry Fundamentals & Design Principles

- Introduction to the AV Industry and AV System Design Workflow
- Understanding Audio, Video, Display and Control System Technologies
- AV Design Fundamentals, AV Math and Industry Best Practices
- Display Sizing, Camera Coverage, Microphone Placement and Speaker Coverage
- Signal Flow, System Architecture, Room Acoustics and Infrastructure Planning
- Introduction to Teams Rooms, Zoom Rooms, Projection, LED Displays and AV-over-IP

Module 2: AVCAD Fundamentals & Project Setup

- Introduction to AVCAD User Interface and Project Environment
- Creating Projects, Managing Templates and Drawing Standards
- Working with Equipment Libraries, Databases and Manufacturer Information
- Configuring Project Attributes, Layers and Annotation Standards
- Integrating AVCAD with AutoCAD, Revit and Visio

Module 3: Equipment Layout & Device Management

- Creating Equipment Layouts using Single and Multiple Device Placement
- Importing Equipment from Excel and DWG Files
- Managing Equipment Properties, Assignments and Device Organization
- Working with Modular Chassis, Device Kits, Containers and Hops
- Creating Equipment Schedules and Project Documentation

Module 4: AV Room Design & Floor Plan Development

- Creating AV Floor Plans using Industry Standard Symbols
- Designing Meeting Rooms, Conference Rooms and Boardrooms
- Planning Training Rooms, Auditoriums and Collaboration Spaces
- Positioning Displays, Cameras, Microphones and Loudspeakers
- Creating Pictorial Drawings and Presentation Layouts

Module 5: Cable Routing & Infrastructure Design

- Understanding AV Cable Types, Standards and Infrastructure Requirements
- Creating Routes, Conduits and Cable Pathways
- Managing Cable Labels, Feathers, Arrows and Cable Identification
- Creating BreakWires, Cable Bundles and Equipment Connectivity
- Generating Cable Documentation, Reports and Schedules

Module 6: Rack Design & Elevation Management

- AV Rack Design Principles and Equipment Space Planning
- Creating Rack Elevations using DrawRack, FillRack and DrawFree
- Managing Rack Properties, Equipment Placement and Cable Organization
- Adding Images, Blocks and Rack Documentation
- Applying Rack Design Best Practices for Installation and Maintenance

Module 7: Drawing Customization & Project Management

- Customizing Blocks, Views and Drawing Presentation
- Managing Images, Additional Information and Annotation Standards
- Applying Geometric Constraints, Mult chamfer, Multifillet and Drawing Masks
- Managing Project Attributes, Positions, Tables and Database Information
- Generating Equipment Lists, Bills of Materials and Project Documentation

Module 8: Complete AV Design Project

- Understanding Client Requirements and System Design Planning
- Developing Complete AV Designs for Meeting Rooms, Boardrooms and Auditoriums
- Preparing Equipment Layouts, Cable Layouts and Rack Elevations
- Creating Equipment Schedules, Cable Schedules and Bills of Materials
- Project Validation, Documentation Standards and Final Design Review

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