AS226457- Wielding the Power of One AutoCAD Toolsets: Utilize Toolsets Content and Standards

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In this class, we will walk you through the procedures using specialized toolsets to design from start to finish. We will learn how to use standard content in AutoCAD Architecture software and AutoCAD MEP software. Then we’ll learn how to use Bill of Materials from AutoCAD Mechanical software, along with wiring diagrams and reporting from AutoCAD Electrical software, to simplify and accelerate your design process. We will show you how to transition between different toolsets to achieve optimal design.
Key learning objectives

At the end of this class, you will be able to:

- Learn how to insert standard content like doors and windows using AutoCAD Architecture
- Learn how to generate bills of materials using AutoCAD Mechanical
- Learn how to create wire diagrams and generate reports using AutoCAD Electrical
- Learn how to lay the plumbing work within your design using AutoCAD MEP
AutoCAD Architecture

- **Convert Linework into intelligent Walls**
  - For example, you can create line diagrams or sketches of walls using lines, arcs, circles, and polylines to represent the building exterior and rooms, and convert these objects to walls. You can edit the wall properties after creating the wall.
Assign different Industry Standard styles to walls.

- Styles control the appearance of Architecture objects. Using wall styles, you can specify dimensions, components, endcaps, materials, and other characteristics to create new types of walls, such as concrete walls, masonry walls, and brick cavity walls.
• Adding Doors, Windows and Openings
  - An opening is an object that interacts with walls to represent an opening of any size at any elevation.
  - Openings are anchored to walls. When you move the wall, the openings like doors, windows move with them.
Inserting Multi View Blocks

- A multi-view block is an AutoCAD Architecture object that can have different representations in different view directions.
- They are typically used to represent furniture and fixtures such as tables and kitchen sinks, or schedule tags such as door numbers.
AutoCAD Architecture

- **Creating Sections and Elevations**
  - 2D sections and elevations define the 2D representation of orthogonal views of a 3D building model.
  - Automatically generate the four primary elevations of the architectural project: north, south, east, and west.
• Adding Duct Work
  - Add in-built and industry specific target and source parts like Diffusers, VAV units.
  - Draw Duct runs anywhere on a floor plan.
  - Connect target and source parts with Ducts and Duct Fittings
Demo
AutoCAD Mechanical

• Design Drawing Views:
  o Help to check design is working as expected.
  o Communicate your ideas to Architects immediately.
  o Use layouts & Viewports to organize your design.
  o Command Line : AMDWGVIEW
AutoCAD Mechanical

• Detail Views:
  o Draw a specific area of an existing drawing view at a larger scale.
  o Show enlarged areas of geometry that are not clearly displayed or dimensioned in another view.
  o Create views in model space and on a layout tab.
  o Command Line: AMDETAIL
AutoCAD Mechanical

• BOM:
  o Database stored within your drawing.
  o More than one BOM can be created for a drawing.
  o Command Line: AMBOM
AutoCAD Mechanical

- Parts list:
  - They are intelligent AutoCAD Tables.
  - Parts list that displays data from the BOM.
  - Command Line: AMPARTSLIST
AutoCAD Mechanical

- Export data:
  - You can export data from both Parts list & BOM
  - AutoCAD Table can be imported to excel and modified to insert into Parts list & BOM.
  - Command Line: AMBOM
AutoCAD Electrical

- Icon Menu Wizard:
  - To customize the icon menus easily.
  - Add or modify icons for both the schematic and panel symbol libraries.
  - In Schematic tab on the ribbon > Insert Components panel > Icon menu
AutoCAD Electrical

- **Insert Component**:
  - Insert a parent component, Assign description, location, and catalog values.
  - Create parent/child relationship for schematic components.
  - Catalog look up: Connects to various standard Manufacturer catalogs in Electrical
    - E.g. ABB, Siemens
AutoCAD Electrical

- **Inserting Wire Diagram**
  - Inserts a line or series of lines on a defined wire layer.
  - Wires do not have to begin or end at snap points.
  - Multiple bus wiring breaks automatically and reconnects to any underlying components in its path.
  - Wires can be drawn at any angle.
  - Ladder of wires can be inserted.
AutoCAD Electrical

- **Electrical From To report:**
  - Three types of reports > Schematic, Panel, and Drawing List report.
  - Schematic reports only pull values from schematic symbols on the drawings in the project.
  - Reports allow project wide as well as active drawing wide reporting.
  - Filtering is more powerful in reports
  - Command: AESCHEMATICREPORT
Success Measures for collaborative use of One AutoCAD Products in this design process?

- Eliminates Architects thinking that Mechanical structure can get in the way of their design
- Ease of handling requirements with Manufacturer using the BOM tools.
- Design changes can be made instantaneous.
- Collaboration between Manufacturer, Plumber & Architect can be made through Cloud Platform (AutoCAD Save Web & Mobile)
Success Measures for collaborative use of One AutoCAD Products in this design process?

• Generate wiring diagram for electrical equipment used in the Architectural design.

• Quick and smart tools to generate bill of materials for electrical devices used in the design.

• Create easy documentation for installation of electrical devices.

• Icon Menu helps you to leverage existing Manufacturer Catalog for your electrical diagrams.