Autodesk AutoCAD Architecture Essentials

Target Audience

This course is designed for architects, drafters, BIM modelers, and CAD professionals who want to master Autodesk AutoCAD Architecture for architectural design, documentation, and visualization. It is also suitable for students and educators in architecture, engineering, and construction (AEC) fields looking to develop industry-relevant skills.

Course Objective

To equip learners with comprehensive knowledge of AutoCAD Architecture, enabling them to create, modify, and manage architectural drawings efficiently. The course focuses on practical workflows for building design, including foundations, floor plans, roofs, curtain walls, space planning, and collaboration tools.

Course Outcome

By the end of this course, participants will be able to:

- Develop detailed architectural drawings and 3D models using ACA-specific tools.
- Generate construction documentation, schedules, and legends.
- Apply materials, renderings, and lighting for realistic visualizations.
- Utilize project management features like the Project Navigator and collaboration tools.
- Create compliant architectural designs with industry-standard practices.

Prerequisites:

- Basic familiarity with AutoCAD or general CAD concepts.
- Fundamental understanding of architectural terminology and design principles.
- A computer meeting Autodesk's system requirement for running AutoCAD Architecture.

- No prior experience with AutoCAD Architecture is required, but it is beneficial.

Course Outline: The course comprises **40-hours** of theory and labs and is divided into **11** different chapters. Each chapter will be followed by hands-on lab exercises to reinforce learning and gauge understanding of the topics covered.

Chapter 1. ACA Overview

- Setting the Template for QNEW
- Creating a New Geometric Profile
- Copying a Style to a Template
- Copying a Style using the Style Browser
- Creating a New Visual Style
- Creating an Autodesk Cloud Account
- Tool Palettes
- Exploring the Display Manager
- Creating a Text Style
- Using the Project Navigator and Project Browser
- Using a Template to Create a Project
- Modifying the ACA Layer Keys

Chapter 2. Foundations & Site Plans

- Creating Custom Line Types
- Creating New Layers
- Creating a Site Plan
- Creating a Layer User Group
- Creating a 2D Layout Grid
- Creating a Custom Grid Bubble
- Insert Grid Lines
- Creating Constructs
- Convert Polylines to Column Grids
- Creating Slab Styles
- Creating a Gravel Fill
- Creating Member Styles
- Creating Member Shapes
- Copying Structural Member Styles

- Create Concrete Footings
- Create Element
- Create Main Model
- Defining a Low Detail Representation of a Framing Plan
- Adding Tags to the Tool Palette
- Adding Tags to Structural Members
- Adding Project Properties
- Creating a View in a Project
- Adding an Element to a Project
- Structural Detail
- Create a Foundation Deck Part 1
- Create a Foundation Deck Part 2

Chapter 3. Floor Plans

- Creating a Floor Plan
- Adding Interior Walls
- Place a Grid
- Combining Constructs
- Create a Floor Plan - Reprised
- Place a Curtain Wall
- Create a Second Floor Plan
- Create a Door and Window Assembly
- Add an Overlay
- Create a Third Floor Plan
- Add Interior Walls and Doors
- Add Overlay- Reprised
- Add an Opening to a Wall

Chapter 4. Space Planning

- Creating AEC Content
- Inserting AEC Content
- Inserting AEC Content - Reprised
- Inserting AEC Content - Second Floor
- Designing a Kitchen
- Modifying an Element
- Inserting an Element

Chapter 5. Roofs

- Creating a Roof Using Existing Walls
- Create Layer Filters and Layer States
- Roof Slabs
- Attach Walls to Roofs
- Creating Materials
- Roof Slab Styles

Chapter 6. Floors, Ceilings, and Spaces

- Creating Slab Styles
- Create Slab from Linework
- Create View Categories and Views
- Create Slab from Boundary
- Create a Reflected Ceiling Plan View
- Levels and Elevations
- Create an Elevation View
- Create Ceiling Grid
- Add Lights to Ceiling Grid
- Add a Space
- Add a Ceiling and Floor to a Space
- Add a Lighting Fixture to a Ceiling
- Placing a Stair
- Placing a Railing on a Stair
- Placing a Railing on a Slab
- Create Named Views
- Placing a Stair with a Landing
- Create a Stair and Railing Style
- Add Slabs to the Second Floor Plan
- Add Balconies
- Add a Hole to a Slab

Chapter 7. Curtain Walls

- Creating a Curtain Wall Style
- Create a Custom Profile
- Add a Door to a Curtain Wall

Chapter 8. Views, Schedules and Legends

- Creating a 3D Section View
- Creating a Detail View
- Creating a Wall Section
- Add Keynote Legend
- Create a Section View
- Add a Door Elevation
- Add a Callout
- Adding Door Tags
- Create a Door Schedule
- Create a Door Schedule Style
- Create Door Symbols for a Legend
- Convert Images to Blocks
- Create a Door Legend
- Creating a Custom Imperial Multi-Leader
- Create a Framing Plan View

Chapter 9. Rooms & Sheets

- Creating a View Drawing
- Adding Spaces
- Modifying Spaces
- Adding Room Tags
- Create a Custom Room Tag
- Create a Room Tag Tool
- Adding Room Tags - Reprised
- Create a Room Schedule Style
- Create a Room Schedule
- Loading a Linetype
- Applying a Fire Rating Line
- Assigning Fire Rating Properties to Wall Styles
- Creating a Schedule Tag
- Adding a Schedule Tag Tool to the Document Palette
- Adding Property Sets to Walls
- Modify a Dimension Style
- Dimensioning a Floor Plan
- Creating a Custom Title Block
- Adding Views

- Creating a Sheet in a Project
- Creating a Framing Schedule Style
- Creating a Framing ScheduleTool
- Adding a Sheet
- Creating a PDF Document

Chapter 10. Rendering & Materials
- Modifying the Material Browser Interface
- Copy a Material from a Library to a Drawing
- Adding Color to Walls
- Adding Elements
- Inserting Blocks
- Edit Materials
- Camera View
- Create Rendering
- Render in Cloud
- Create an Animation
- Using the Sun & Sky
- Applying Materials
- Applying Materials to Furniture
- Replace a Block
- Using Artificial Light
- Mapping Materials

Chapter 11. Collaboration

- Set the Number of Backup Files in a Project
- Checking out and Checking In a Drawing
- Checking in a Drawing
- Creating a Lighting Fixture Schedule
- Creating a Lighting Fixture Tag
- Version History
- Renumber Tags
- Shared Views
- Use Markup Import
- Use Trace