

Autodesk AutoCAD API Training Course

Course Overview

Course Length: 16-Hours

- 16-Hours – 8 x 2-hour training sessions
- Remote training over MS Teams
- Sessions are recorded and download links for each session are provided for future use
- Training for up to 1-3 people
- Sessions can start within 7 days upon ordering
- Flexible sessions (for example, consecutive or Monday, Wednesday, Friday)
- Courses are private and topics can be customised to suit
- Includes Certificate of Completion

The AutoCAD API Training Course delivers practical instructor-led training for CAD managers, developers, BIM managers, CAD administrators, and advanced users who want to automate workflows and build custom AutoCAD applications.

The course focuses on AutoCAD .NET development with C#, Visual Studio, and Autodesk APIs, while introducing AutoLISP, VBA, and other automation tools. Participants learn to create commands, develop plugins, work with drawing data, and connect AutoCAD with external systems.

Suitable for those seeking AutoCAD programming, developer, Lisp, or VBA training, the course builds practical skills that can be applied immediately in real projects.

Delivered live over Microsoft Teams, it combines development concepts with hands-on automation exercises to reduce repetitive tasks, improve consistency, and increase delivery efficiency.

Topics Covered

- AutoCAD API fundamentals
- AutoCAD .NET development
- AutoLISP automation
- VBA concepts and legacy automation
- C# programming for AutoCAD
- Plugin development
- Custom commands
- Drawing database access
- Block and attribute automation
- User interface development
- External data integration
- Autodesk Platform Services (APS)
- Error handling and debugging
- API deployment and maintenance

Prerequisites

A fundamental understanding and knowledge of AutoCAD and terminology.

Training Guide Contents

Chapter 1: Introduction to AutoCAD API Development

- AutoCAD API Architecture
- Development Environment Setup
- Visual Studio Configuration
- AutoCAD Object Model
- AutoCAD .NET Fundamentals

Chapter 2: Creating AutoCAD Commands and Plugins

- Command Methods
- Plugin Structure
- Loading Assemblies
- Command Registration
- Plugin Deployment

Chapter 3: Working with Drawings and Databases

- Transactions
- Database Access
- Object Collections
- Reading Drawing Data
- Writing Drawing Data

Chapter 4: Entity Creation and Modification

- Lines, Polylines, Circles
- Text and Annotation Objects
- Block References
- Property Management
- Object Manipulation

Chapter 5: Blocks, Attributes and Standards

- Block Automation
- Attribute Management
- Dynamic Blocks
- Layer Automation
- CAD Standards Enforcement

Chapter 6: User Interfaces and User Input

- Ribbon Customisation
- Forms and Dialogs
- User Prompts
- Workflow Design
- Interface Development

Chapter 7: Data Integration and Automation

- Excel Integration
- CSV Processing

- SQL Databases
- JSON Workflows
- External Data Sources

Chapter 8: Event Handling and Batch Processing

- Drawing Events
- Object Events
- Batch Automation
- Project Processing
- Workflow Triggers

Chapter 9: Advanced Development Techniques

- Error Handling
- Debugging
- Performance Optimisation
- Reusable Libraries
- API Best Practices

Chapter 10: Custom AutoCAD API Project Development**

- Reviewing Business Requirements
- Defining Project Objectives
- Designing Application Architecture
- Developing Custom Commands and Tools
- Testing and Deployment
- Future Enhancement Planning

**Creating a custom add-in, code or scripts may take additional time than allocate within the 16-hours and can be pre-determined prior to commencement of training.