

# Autodesk Fusion 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 Autodesk Fusion API Training Course provides practical instructor-led training for product designers, mechanical engineers, software developers, manufacturing professionals, CAD managers, and Autodesk Fusion users wanting to automate design and manufacturing workflows using the Autodesk Fusion API.

This Fusion API Training course focuses on API development using Python and JavaScript, enabling participants to create custom scripts, commands, add-ins, automation tools, and integrations that improve productivity across CAD, CAM, CAE, and product development workflows.

Whether you are looking for a Fusion API Course, Fusion Programming Course, Fusion Python Training, or a Fusion API Developer Course, this training provides practical development skills that can be immediately applied to engineering, manufacturing, and product development projects.

Delivered through live remote training sessions over Microsoft Teams, the Fusion API Training Course combines software development principles with practical Fusion automation exercises to help organisations streamline design processes, improve manufacturing readiness, and develop custom engineering solutions.

## Topics Covered

This Fusion API Training Course can be customised to focus on specific Autodesk and Development technologies including:

- Fusion API fundamentals
- Python programming for Fusion
- JavaScript development
- Script development
- Add-in development
- CAD automation
- CAM automation
- Assembly automation

- Drawing automation
- User interface development
- Data exchange and integrations
- Autodesk Platform Services (APS)
- Manufacturing automation
- Error handling and debugging
- API deployment and maintenance

## Prerequisites

Participants attending this Fusion API Course should have a good working knowledge of Autodesk Fusion and an understanding of CAD or CAM workflows. Previous experience with Python, JavaScript, or general programming concepts is beneficial but not mandatory.

Access to Autodesk Fusion, a suitable development environment, and a stable internet connection is required for participation in remote training sessions. The course can be tailored for beginner, intermediate, or advanced developers depending on existing programming experience and organisational requirements.

## Training Guide Contents

### Chapter 1: Introduction to Fusion API Development

- Fusion API Architecture
- Python Fundamentals
- JavaScript Fundamentals
- Development Environment Setup
- API Fundamentals

### Chapter 2: Creating Scripts and Add-Ins

- Scripts vs Add-Ins
- Command Creation
- UI Integration
- Project Structure
- Deployment

### Chapter 3: Working with Fusion Data

- Design Files
- Components
- Assemblies
- Cloud Data
- Project Management

### Chapter 4: CAD Automation

- Sketch Automation
- Feature Creation
- Parametric Modelling
- Geometry Creation
- Design Automation

## **Chapter 5: Assembly and Drawing Automation**

- Assembly Management
- Component Placement
- Drawing Generation
- Annotation Automation
- Documentation Workflows

## **Chapter 6: CAM Automation**

- Manufacturing Workspace
- Setup Automation
- Toolpath Generation
- Tool Libraries
- NC Program Creation

## **Chapter 7: User Interfaces and Custom Tools**

- Command Dialogs
- User Inputs
- Toolbars
- Workflow Design
- User Experience

## **Chapter 8: Data Integration and Autodesk Platform Services**

- Excel Integration
- JSON Workflows
- REST APIs
- External Systems
- Autodesk Platform Services (APS)

## **Chapter 9: Advanced API Development**

- Events
- Error Handling
- Debugging
- Performance Optimisation
- Development Best Practices

## **Chapter 10: Custom Fusion API Project Development\*\***

- Reviewing Business Requirements
- Defining Project Objectives
- Designing Application Architecture
- Developing Custom Automation 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.