

Autodesk Revit MCP & AI Automation Essentials

1. TARGET AUDIENCE

- Revit users, BIM modellers and BIM coordinators
- Architects, civil, structural and MEP professionals
- Revit trainers and technical support professionals
- Non-programmers interested in automating repetitive Revit tasks

Participants should have basic knowledge of Revit elements, views, sheets, schedules and parameters.

2. COURSE OBJECTIVE

Learn how to connect an AI assistant with Autodesk Revit through a preconfigured MCP environment and use natural-language instructions to retrieve model information, update parameters, review documentation and automate repetitive BIM tasks without programming.

3. COURSE OUTCOMES

After completing this course, participants will be able to:

- Understand how Revit, MCP and AI work together
- Connect an AI assistant with an active Revit project
- Retrieve and review model information using simple prompts
- Automate selected parameter and data-management activities
- Review views, sheets, schedules and BIM data
- Perform basic model QA/QC checks
- Create reusable prompts for everyday Revit activities
- Validate AI-generated changes before saving the model

4. COURSE OUTLINE

The course comprises **16 hours of instructor-led demonstrations and guided practical exercises**, divided into eight modules. It covers Revit MCP fundamentals, environment setup, natural-language interaction, model-data retrieval, parameter automation, documentation review, BIM QA/QC and an integrated automation project.

TABLE OF CONTENTS

MODULE 1: INTRODUCTION TO AI AND REVIT AUTOMATION

- Fundamentals of AI, AI assistants, automation and MCP
- Repetitive Revit activities suitable for AI-assisted automation
- Revit–MCP–AI workflow and its practical applications
- Benefits, limitations and responsible use of AI in BIM

MODULE 2: SETTING UP THE REVIT MCP ENVIRONMENT (2 Hours)

- Overview of the Revit add-in, MCP server and AI client
- Installing and configuring a preconfigured MCP solution
- Connecting the AI assistant with an active Revit project
- Testing the connection and resolving common setup issues

MODULE 3: COMMUNICATING WITH REVIT USING NATURAL LANGUAGE

- Understanding prompts and natural-language instructions
- Defining categories, levels, views, elements and parameters
- Finding and filtering Revit elements through AI
- Refining instructions and creating reusable prompt templates

MODULE 4: RETRIEVING AND REVIEWING MODEL INFORMATION

- Retrieving project, level, view, family and element information
- Reviewing categories, types, instances and parameter values
- Filtering model information and identifying missing data
- Preparing basic model summaries, element counts and quantities

MODULE 5: AUTOMATING PARAMETER AND DATA-MANAGEMENT TASKS

- Understanding read-only and model-changing operations
- Finding missing, incomplete or inconsistent parameter values
- Performing controlled parameter and naming updates
- Reviewing, verifying and reversing changes when required

MODULE 6: AI ASSISTANCE FOR VIEWS, SHEETS AND SCHEDULES

- Reviewing project views, sheets and schedules using AI
- Checking view names, sheet numbers and documentation standards
- Identifying duplicates, unplaced views and incomplete information
- Preparing documentation checklists and correction reports

MODULE 7: MODEL QA/QC AND REUSABLE AUTOMATION PROMPTS

- Checking rooms, door marks, naming rules and parameter completeness
- Identifying duplicate, missing or inconsistent BIM information
- Creating reusable prompts for common model-review activities
- Reviewing AI output and preventing unwanted model changes

Practical Exercise: Create reusable prompts for five Revit QA/QC activities.

MODULE 8: INTEGRATED REVIT MCP AUTOMATION PROJECT

- Selecting and planning a repetitive Revit workflow
- Retrieving and analysing the required model information
- Performing controlled updates through natural-language instructions
- Validating results and understanding the next automation learning path