

Autodesk Revit Structure & AutoCAD Integration

Target Audience

This course is designed for civil engineers, structural designers, draftspersons, BIM technicians, and construction professionals who want to master the integration of Autodesk Revit Structure with AutoCAD. It is ideal for those transitioning from 2D CAD workflows to full 3D BIM modelling while retaining precision drafting skills required for construction documentation.

Course Objective

To equip participants with comprehensive skills in structural BIM modelling using Revit and 2D drafting using AutoCAD — enabling them to produce coordinated structural drawings, manage project documentation, and seamlessly interoperate between both platforms in a professional AEC workflow.

Course Outcome

After completing this course, learners will be able to create and manage structural BIM models in Revit Structure, produce professional 2D construction drawings in AutoCAD, perform DWG/DXF import-export workflows between Revit and AutoCAD, set up sheet sets, annotations, and plotting, and apply best-practice documentation standards across real-world civil and structural projects.

Course Outline

The course comprises **40-hours** of theory and demonstrations and is divided into **10** different chapters. Each chapter is designed with practical examples and guided exercises to reinforce learning.

Chapter 0: Introduction to BIM & CAD Integration



- Welcome and Course Overview
- Understanding BIM vs Traditional CAD Workflows
- Industry Applications of Revit and AutoCAD
- Software Installation and Workspace Setup
- **Practice Exercises**

Chapter 1: AutoCAD Fundamentals for BIM Professionals

- AutoCAD Interface, Workspace and Navigation Tools
- Layer Management: Creating, Controlling and Organising Layers
- Drafting Fundamentals: Lines, Arcs, Polylines and Editing Commands
- Drafting Settings: Snap, Grid, Ortho, Polar and Object Snap (OSNAP)
- Annotation: Text Styles, Dimensions and Leaders
- Blocks and Attributes: Creating and Managing Reusable Content
- **Practice Exercises**

Chapter 2: AutoCAD Documentation & Output

- Viewports: Model Space, Paper Space and Viewport Configuration
- Sheet Sets and Drawing Management
- Printing and Plotting: Page Setup, Plot Styles and PDF Export
- AutoCAD Template Creation and Standards
- Annotative Scales and Viewport Overrides
- **Practice Exercises**

Chapter 3: Introduction to Revit Structure

- Revit Interface, Navigation and Project Setup
- Understanding Levels, Grids and Reference Planes
- Revit Families: System, Loadable and In-Place
- Linking AutoCAD DWG Files into Revit
- **Practice Exercises**

Chapter 4: Structural Modelling in Revit – Concrete

- Modelling Concrete Foundations: Isolated, Strip and Raft
- Columns and Beams: Placement, Alignment and Properties



- Slabs and Floor Systems: Flat Slab, Ribbed and Waffle
- Structural Walls: Shear Walls and Retaining Walls
- Material Properties and Structural Parameters
- **Practice Exercises**

Chapter 5: Structural Modelling in Revit – Steel

- Steel Framing: Beams, Columns and Bracing
- Connection Modelling: Base Plates, Moment and Shear Connections
- Trusses and Composite Deck Modelling
- Steel Section Libraries and Custom Profile Creation
- Advanced Steel Component Detailing
- **Practice Exercises**

Chapter 6: Rebar Modelling & Scheduling

- Rebar Fundamentals: Placement, Cover and Shape Codes
- Advanced Rebar: Stirrups, Hooks and Host Constraints
- Precast Component Modelling and Assembly
- Rebar Schedules and Quantity Takeoff
- **Practice Exercises**

Chapter 7: Revit Documentation & Sheets

- Creating Floor Plans, Sections, Elevations and 3D Views
- Visibility/Graphics Overrides and View Templates
- Annotations, Dimensions and Tagging Best Practices
- Title Block Creation and Sheet Management
- Revision Control and Drawing Issuance
- **Practice Exercises**

Chapter 8: Revit–AutoCAD Interoperability

- Exporting Revit Views to DWG/DXF for AutoCAD
- Importing AutoCAD Backgrounds into Revit
- Managing Linked Files and Layer Mapping
- IFC Export and Open BIM Workflows



- Maintaining Drawing Consistency Across Both Platforms
- **Practice Exercises**

