

Training Course Outline

REVIT STRUCTURE ADVANCED

TRAINING COURSE OUTLINE

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COURSE DESCRIPTION

The Revit Structure Advance course introduces experienced users of the Autodesk® Revit® Structure software to more advanced techniques and concepts beyond what was learned in the Autodesk Revit Structure Essentials training guide. It is intended to broaden your knowledge and maximize your use of the Autodesk Revit Structure software. This course is details information and practical exercises regarding creating families (tapered columns, precastslabs, tapered moment frame, and trusses), preparing the Autodesk Revit Software analytical model for analytical model for analysis and project sharing.



TARGET GROUP

The course aim to user who are currently or planning to work with Architectural, MEP engineers, structural engineers, and Construction Developer Industry.



COURSE DURATION

Full Time: 3 Days (10.30am-5.30pm)



LEARNING OUTCOME

By the end of the course, participants should be able to:

- Concepts and Techniques for working with Families
- Project Team Collaboration working with Worksets View Composition
- Concepts and Techniques for working with Families
- Creating Structural Families
- Creating Trusses
- Setting Up Analytical Views
- Creating and Placing Loads for Structural Analysis

COURSE PRE-REQUISITES

- Architectural design, drafting, or engineering experience is recommended.
- A working knowledge of Microsoft® Windows® 7, Microsoft® Windows® Vista, Microsoft® Windows® XP, or Microsoft® Windows® 2000.

CERTIFICATE

MTTC Certificate of Completion will be issued to participants with full attendance record upon completion of training.

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COURSE CONTENT

DAY 1

Building Information Modelling

- Workflow and BIM
- Views and sheets

Setting up Levels and Grids

- Setting Up Levels
- Modifying Levels
- Creating Structural
Adding Grids
- Modifying Grid Lines

Working with views

- Duplicating Views
- Duplication Types
- Adding Callout Views
- Modifying Callouts
- Setting the view Display
- Underlays
- View Range
- Overriding Graphics in a View
- Elevations and sections
- Elevations
- Sections
- Modifying Elevations and Sections

Starting Structural Projects

- Importing and Linking CAD Drawings
- Modifying Imported/Linked CAD Files
- Linking in Architectural Projects
- Managing Links
- Copying and monitoring Elements
- Copy/Monitor Options
- Working with monitored elements

Adding Columns and Walls

- Placing Vertical Structural Columns
- Modifying Columns
Loading Structural ColumnTypes
- Placing Slanted StructuralColumns
- Working in 3D views
- Working in Elevations or Sections
- Drawing Walls

Modifying walls

- Adding Foundations and Structural Slabs
- Creating Wall Footings
- Isolated Footings
- Working with custom families
- Piers and pilasters
- Creating Structural Slabs
- Modifying Slabs
- Editing the Structure of Slab
- Slab Edges
- Creating Shaft Openings
- Structural Reinforcement
- Structural Reinforcing Settings
- Adding Rebar
- Multi-planar Rebar
- Viewing Rebar in 3DViews
- Modifying Rebar Placement
- Rebar Types
- Editing Plan and Section Profile
- Reinforcing walls, floors, and slabs
- Path Reinforcement
- Modifying Area and Path Reinforcement
- Fabric Reinforcement

DAY 2

Beams and Framing Systems

- Adding Beams and Beams Systems
- Modifying Beams
- Sloping and ousetting Beams
- Adding Beam Cantilevers
- Changing Justifications
- Attaching a Column to a Beam
- Applying Beam Coping
- Editing Beam Joins
- Framing Openings
- Framing Annotations
- Beam Annotations
- Beam Systems Symbol
- Adding Bracing
- Modifying Bracing
- Creating Groups
- Cross bracing settings

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COURSE CONTENT

Projects - Steel and Concrete Structures

- Steel Structure - Additional Practice
- Concrete Structure - Additional Practice

Scheduling

- Structure Schedules
- Graphical Column Schedules
- Modifying Graphical Column Schedule
- Working with Schedule
- Modifying Schedule
- Modifying a schedule on sheet
- Importing and exporting schedules
- Creating Schedule
- Building Component Schedules
- Material Take out Schedule
- Modifying Schedule Properties
- Setting up Cell Appearance
- Chapter 1 Family Concepts & Techniques

Introduction to Creating Families

- Family Types
- Host vs Stand-alone Families
- Family Editor
- Preparing to Create Families
- Overview of Creating a Family
- Creating the Parametric Framework
- Setting up Reference Planes/Lines in Families
- Adding Dimensions
- Flexing Geometry
- Creating 3D Elements
- Additional Tools for Families
- Aligning and Locking
- Adding Controls
- Adding Openings
- Adding Lines
- Text tools
- Adding Components
- Creating Family types
- Visibility Display Settings
- Overview of Family Creation
- Locating Custom Family Files

DAY 3

Additional Families

- Parametric Gusset Plate
- Column Stiffeners (In Place Family)
- Built-Up Column
- Tapered Moment Frame
- Creating Trusses
- Truss Concepts and techniques
- Creating Truss Families
- Using Trusses in Projects

Structural Analysis

- Preparing Projects for Structural Analysis
- Structural Settings
- Symbolic Representation Settings
- Load Cases
- Load Combinations
- Analytical Model Settings
- Boundary Conditions Settings
- Viewing Analytical Models
- Analytical Settings and views
- Adjusting Analytical Models
- Analytical Justifications
- Analytical Properties
- Manually Adjusting the Analytical Model
- Placing Loads
- Boundary Condition
- Adding Loads

Project Team Collaboration

- Introduction to Worksets
- Workset Definitions
- Opening and Saving

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COURSE CONTENT



Workset - Related Projects

- Saving Workset Related Files
- Working in Workset-Related Projects
- Editing Elements in Worksets
- Permissions to Edit
- Relinquishing worksets
- Ending the day using worksets
- Visibility and display options
- Controlling workset visibility
- Work sharing display options
- Work sharing and linked models
- Working with worksets in linked models
- Working in workset-related projects
- Setting up worksets
- Placing elements in worksets
- Creating the central files
- Other workset types
- Best practices for worksets
- Working with company policies
- Tips for using worksets
- Tips for creating worksets

Working with shared Parameters

- Project Parameters
- Working with shared parameters