

Training Course Outline

REVIT STRUCTURE ESSENTIAL

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COURSE DESCRIPTION

To take full advantage of Building Information Modeling, this Autodesk® Revit® Structure Essentials training course has been designed to teach the concepts and principles from building design through construction documentation using the Autodesk Revit Structure software. This training course is intended to introduce students to the software's user interface and the basic building components that make the Autodesk Revit Structure software a powerful and flexible structural modeling tool. Our goal is to familiarize you with the tools necessary to create, document, and print your parametric model. Examples and practices are designed to reflect as many different building types as possible. This course is designed for new users of Revit Structure.



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:

- Introduction to the Autodesk Revit Structure software
- Setting up Levels and Grids
- Working with Views
- Editing Elements
- Modifying Commands
- Starting a Structural Project using architectural underlays
- Adding Columns and Walls
- Adding Foundations
- Structural Reinforcement
- Beams and Framing Systems
- Bracing Frames
- Floors, Shafts, and Stairs
- Annotation, Detailing, and Scheduling
- Sheets and Printing

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

Introduction to the Principles of BIM

- Simple Truths
- Behind the hype
- The benefits of BIM
- What will BIM deliver

UI Tour, Project Navigation and View Creation

- Introducing the menu and screen layout
- Interrogating the model to extract views
- Placement and properties of grids and levels
- Introduction to basic Revit elements

Element Selection and Manipulation

- Object selection and methods
- Element properties
- Instance and type parameters
- Nodes and snaps

Visibility Control and Categorisation

- Project-wide settings
- View specific overrides
- Element specific overrides
- Individual line overrides

Model Development Methodology

- Rationalised model construction
- Graded component libraries
- Data-rich/graphicslight
- Controlling 3D geometry and 2D linework

Settings Units and Linking Revit

- Project units-Common and Structural
- Structural settings and symbolic representation
- Analytical settings
- Linking CAD and Revit Architecture
- Copy monitor and coordination review

DAY 2

Modelling Basics–Walls, Columns Beams and Bracing

- Basic definitions
- Relating slabs to walls and supporting framework
- Column placement and behaviour
- Beam placement and behaviour Element connectivity and display
- Bracing characteristics

Foundations and Piling

- Footings and foundation types
- Slabs, standard and in-place family foundations
- Foundation walls, piers and pilasters

System Family Editing

- Principles of composite system family definition
- Understanding properties such as function, and wrapping of layers
- Creating and utilising a system family library

Basic Schedules and Legends

- Interactive session on the generation of tabular interrogations of the model

Geometry Formation and In-Place Families

- Interactive session on the creation and manipulation of basic solid and void forms

Slab and Roof Tools

- Sketching Rules
- Relating to slabs to walls and supports
- Cantilevers, span direction and adding slopes
- Slab foundation and slab edge
- Basic Roof Designs

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COURSE CONTENT

DAY 3

Stairs Ramps and Railings

- Characteristics of simple staircases and ramps
- Handrailing integral to the stairs and ramps
- Stand-alone handrail

Beam and Truss Systems

- Beam systems creation and placement
- Sketching boundaries and rules
Modifying beam system properties
- Concrete framing systems and pan joist slabs
- Truss elements, placement and family creation
- Attaching trusses to roofs and floors

Project Phases and Design Options

- Project phasing, properties and creation
- Phase filters and graphic overrides
- Combining phases, infill and the demolition of elements
- Design option terminology and workflow
- Utilising design option sets and workset

2D Draughting and Annotation

- Introducing annotation tools and components categories
- Details components libraries
- Repeating details
- Lines and arcs
- Text, tags and keynotes

Sheet Compilation and Publication

- Project browser organisation-WIP and Publish
- Creating and populating sheets
- Working and schedules
- Publishing and document management

Basic Subdivision and Collaboration

- Introducing a BIM Strategy document
- Model management
- Project team collaboration techniques
- Transmittal and model issue protocols
- Basics of large model sub-division
- Exercise on worksets and task allocation

Introduction to the Principles of Family Editing

- The basic process
- 10 stages for trouble free family creation