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Course: Autodesk Revit Structure

Course Description

To harness complete advantage of Building Information Modeling, this course has been especially designed to help the aspirants learn the concepts and principles of building design through construction documentation using Autodesk Revit Structure.

The aspirants will be introduced to the software's user interface and the basic building component that makes the Autodesk Revit Structure a powerful and flexible structural modeling tool.

This course is designed for the new aspirants as well as for existing users to sharpen their skills/knowledge of Revit Architecture.

Class and Lab hours:

60 (35 Theory, 25 Lab)

Prerequisite:

Need to be an architect/ civil engineer with basic knowledge of structural engineering.

Course Objectives

Upon completion of the course, trainees/students will be able to:

- *Create 2D and 3D models*
- *Understand advanced modeling tools*
- *Add foundation, beams, floors, and open web joists*
- *Create Project Details and Schedules*

Major Instructional Areas:

- *Basics of Autodesk Revit Structure*
- *Working with structural columns and walls*
- *Add foundations, beams, floors, and open web joists*
- *Working with Views and Schedules*

Detailed Course Outline

Unit Heading	*Unit Outcomes*	*Unit Topics*
1. Starting with Revit Structure	• *The basics of Revit Structure* • *Revit Structure interface*	• *Introducing Revit Structure* • *Understanding the basic concepts and principles of Revit Structure* • *Understanding the Revit Interface* • *Using the shortcut keys* • *Interoperability of Revit structure* • *Configuration and preferences*
2. Setting of Template	• *Introduction to Revit Structure* • *Other Display Settings*	• *Starting a Project* • *Setting Units* • *Setting Other Global Settings* • *Model Display Tools* • *Saving a Project* • *Closing a Project*
3. Working with Datum and Standard Views	• *Work with levels, grids, and work planes* • *Work with Project Views*	• *Working with Levels* • *Understanding Level Properties* • *Working with Grids* • *Understanding Grid Properties* • *Working with Reference planes* • *Setting a Work plane* • *Working with Project Views*
4. Creating Structural Columns and Walls	• *Work with Structural Columns* • *Work with Structural Walls*	• *Adding Structural Columns* • *Adding Structural Walls* • *Modifying Structural Walls* • *Creating Openings in a Project*
5. Working with Foundations, Beams, Floors, and Open Web Joists	• *Work with Foundations* • *Work with Floors* • *Work with Beams*	• *Adding Foundation Walls* • *Adding Structural Floors* • *Adding Opening to Structural Floors* • *Adding Beams* • *Adding Structural Beam System* • *Working with Open Web Steel Joists*

6. Editing Tools	• *Cut, Paste, Move and Copy elements* • *To work with other editing tools*	• *Creating a Selection Set* • *Moving and Copying Elements* • *Trimming and Extending Elements* • *Cutting and Pasting Elements* • *Rotating, Mirroring, Matching, Aligning, Deleting, and Splitting Elements* • *Pinning and Unpinning Elements* • *Creating Group of Elements*
7. Documenting Models and Creating Families	• *Work with dimensions* • *Work with tags*	• *Working with tags* • *Adding Symbols* • *Adding Dimensions and its Types* • *Creating Families*
9. Detailing and Drafting Views	• *Work with Details using building model* • *Work with sheets* • *Work with dependent views*	• *Working with Elevation View, Section View, and Callout Views* • *Creating Details Using Building Model* • *Creating Drafted Details* • *Adding Text Notes* • *Using Schedules in a Project* • *Creating Drawing Sheets* • *Creating 3D Views*
10. Reinforcement and Massing Features	• *Introduction to Massing Features* • *Work with the reinforcements*	• *Adding Reinforcement* • *Linking Building Models and Sharing Coordinates* • *Working with Site Features* • *Understanding Massing Concepts* • *Creating Building Elements from massing geometry*

Evaluation:

There will be one exam that every trainee/student must pass with at least 75% or more to get a certificate of completion from BIMNCAD.

Suggested Learning Approach

In this course, you will study individually or within a group of your peers. As you work on the course deliverables, you are encouraged to share ideas with your peers and instructor, work collaboratively on projects and team assignments, raise critical questions, and provide constructive feedback.