



Softcrayons

# REVIT STRUCTURE

*Empowering minds  
shaping futures*



# PROFESSIONAL CERTIFICATION IN

# REVIT STRUCTURE



## PROSPECTUS



# Key Advantages of Choosing Softcrayons

## FOR STUDENTS

**Supplemental Learning Resources:** Softcrayons offers offline and online courses, educational materials, and additional resources that can complement and enhance college students' learning.

**Skill Development:** Softcrayons offer courses and certifications focused on developing specific skills that are in high demand in the job market.

**Career Exploration:** Softcrayons offer a wide range of courses across various disciplines, enabling college students to explore different fields and potential career paths.

**Industry Relevance:** Softcrayons frequently collaborates with industry professionals and experts to ensure that the knowledge and skills imparted are relevant and aligned with current industry practices and trends.

## FOR FREELANCER & JOB SEEKER

**Flexibility:** Softcrayons offers online courses and programs that can be accessed from anywhere.

**Skill Development:** To acquire in-demand skills according to the latest industry trends and technologies to stay competitive in the job market.

# Key Advantages of Choosing Softcrayons

**Certifications:** Softcrayons provides you with Professional Certifications and helps you with Resume Enhancement.

**Career Support:** Softcrayons also offers career counseling and job placement assistance, which can be invaluable for freelancers seeking new projects or job seekers looking for employment.

## FOR ENTREPRENEURS AND BUSINESS OWNER

**Upskilling and Reskilling:** As the business landscape evolves rapidly, Softcrayons ensure that you stay up-to-date with the latest trends, technologies, and best practices.

**Flexible Learning:** Online courses offered by Softcrayons allow you to learn at your own pace, fitting your studies around your busy schedules.

**Entrepreneurial Skills Development:** Softcrayons offers courses and programs specifically designed to help entrepreneurs develop essential skills.

**Cost-effective:** Softcrayons provides more affordable learning options that help you invest in your professional development without straining your budget.

# About The Program

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Revit software is a powerful tool in the field of structural design, offering a comprehensive solution for creating detailed and accurate structural models. Revit allows engineers to create 3D models that integrate seamlessly with structural analysis software. This integration ensures that structural designs are both accurate and optimized for performance. Revit's parametric components enable users to create and modify structural elements easily. This includes beams, columns, foundations, and reinforcement, which can be adjusted dynamically as the design evolves. Revit generates precise and detailed documentation, including construction drawings, schedules, and material takeoffs. This documentation is essential for accurate project planning and execution. Revit supports collaboration among project stakeholders, including architects, engineers, and contractors. This collaboration is facilitated through the cloud, allowing real-time updates and coordination.



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# REVIT STRUCTURE

## TRAINING CURRICULUM

### 1 Introduction to Revit Structure

#### – Day 1

#### Introduction to BIM and Revit

- Understanding the concept of Building Information Modelling (BIM)
- Overview of Revit Structure and its role in the design and documentation process

#### User Interface Overview

- Introduction to the Revit interface
- Understanding tools, ribbons, and project browser
- Customizing the user interface for structural work

#### Project Setup

- Starting a new project from templates
- Setting up units, levels, and grids
- Linking architectural models and other disciplines

### 2 Grids, Levels, and Structural Elements

#### – Day 2

#### Creating and Managing Levels

- Defining levels for the structural model
- Modifying and managing levels for multi-story buildings

#### Setting Up Structural Grids

- Adding and modifying structural grids
- Aligning grids with architectural models
- Best practices for grid placement and organization

#### – Day 3

#### Placing Structural Columns

- Adding vertical load-bearing elements like columns (steel, concrete, timber)
- Adjusting column sizes, locations, and heights
- Working with structural column families

## 3 Structural Framing

### – Day 4

#### Placing Beams and Beam Systems

- Adding structural beams and framing systems
- Working with steel, concrete, and wood beams
- Using the beam system tool to create repetitive framing layouts

### – Day 5

#### Beam Joins and Support

- Adjusting beam-to-beam connections
- Aligning beams with grid lines and other structural elements
- Modifying beam end conditions (fixed, pinned, cantilevered)

### – Day 6

#### Structural Bracing

- Adding horizontal and vertical bracing systems
- Configuring bracing for lateral load resistance (seismic and wind)

## 4 Structural Floors and Slabs

### – Day 7

#### Creating Structural Floors

- Adding concrete and composite floor slabs
- Modifying slab thickness, materials, and support conditions
- Creating slab openings and edges

### – Day 8

#### Sloped Floors and Ramps

- Creating and modifying sloped slabs
- Adding ramps and structural stairs for accessibility

### – Day 9

#### Slab Reinforcement

- Introduction to slab rebar and reinforcement
- Reinforcing floor slabs with rebar grids and individual bars



## 5 Structural Walls and Foundations

### – Day 10

#### Creating Structural Walls

- Placing and modifying load-bearing walls
- Reinforced concrete, masonry, and steel wall types
- Configuring wall properties (material, thickness, structural function)

### – Day 11

#### Foundation Design

- Creating isolated footings, continuous footings, and wall foundations
- Pile foundations for complex soil conditions
- Modifying foundation sizes and depths

#### Slab Foundations

- Designing slab-on-grade and mat foundations for buildings

## 6 Structural Reinforcement (Rebar)

### – Day 12

#### Introduction to Rebar Tools

- Adding rebar to beams, columns, slabs, and walls
- Understanding rebar types, shapes, and placement methods

### – Day 13

#### Placing Rebar

- Manual and automatic rebar placement for different structural elements
- Using rebar cover settings to control concrete cover
- Modifying rebar spacing, hooks, and bending schedules

#### Reinforcement Schedules

- Extracting rebar quantities and creating bar bending schedules
- Customizing reinforcement schedules for fabrication and construction

## 7 Analytical Model for Structural Analysis

### – Day 14

#### Understanding the Analytical Model

- Differentiating between the physical and analytical models
- Viewing and modifying the analytical model for structural analysis

## – Day 15

### Boundary Conditions and Loads

- Defining boundary conditions (supports, pinned, fixed)
- Applying loads: Dead, live, wind, seismic, and custom loads
- Adjusting load distribution for accurate analysis

### Exporting Models for Analysis

- Exporting the Revit model for use in structural analysis software

## 8 Structural Connections

### – Day 16

#### Adding Steel Connections

- Placing and modifying standard steel connections (bolted, welded)
- Working with pre-defined connection families
- Customizing connections for different joint types

### – Day 17

#### Concrete-to-Steel Connections

- Creating hybrid connections between steel and concrete elements
- Managing complex structural connection details

### – Day 18

#### Connection Schedules

- Automating connection schedules for large projects
- Managing connection details for fabrication and field assembly

## 9 Structural Detailing and Documentation

### – Day 19

#### Detailing Structural Elements

- Adding 2D details to beams, columns, foundations, and walls
- Using detail components and detail lines to enhance structural drawings

## – Day 20

### Creating Construction Documents

- Creating sheets for structural plans, sections, and elevations
- Adding dimensions, annotations, and tags to structural elements
- Managing and organizing drawing sets for submission

## – Day 21

### Schedules and Quantities

- Generating quantity take-offs and material schedules
- Filtering and sorting schedules for accurate reporting

## 10 Collaboration and Coordination

## – Day 22

### Working in a Collaborative Environment

- Understanding work-sharing and work sets in Revit for structural projects
- Best practices for collaborating with architects and MEP engineers

### Linking Models

- Linking architectural and MEP models into the structural model
- Managing linked files and resolving coordination issues

### Clash Detection

- Performing clash detection between structural elements and other disciplines
- Using Navisworks or Revit's coordination tools for clash resolution

### Coordination Reviews

- Reviewing and managing changes from linked models

## 11 Advanced Structural Modelling Techniques

## – Day 23

### Complex Beam and Truss Systems

# PLACEMENT COMPANIES



# Testimonials of Students



**Ak Mew**  
1 review

★★★★★ 2 months ago

Hi dear learner I am arman I am softcrayons student I have my **AutoCAD** training done today from softcrayons my trainer name is Dablu kumar.he is very knowledgeable.and shivi ma'am is very supportive for all thinks like fee job class timing and etc thank you ma'am and thank-you softcrayons noida



**Deepak Singh Bhandari**  
1 review

★★★★★ a year ago

I am Deepak from Uttarakhand I have completed my **AutoCAD** solid work nx cad training from softcrayons. softcrayons is the best institute for learning part. and thank you for Shivani ma'am because she is a great person. and thank you Shivani ma'am for your guidelines.



**Vishal Goswami**  
4 reviews

★★★★★ a day ago **NEW**

Best autocad institute in noida. Dablu sir is a best trainer in this institute on autocad and other courses.



**Mohammad Amaan**  
3 reviews

★★★★★ 4 days ago **NEW**

my experience with **AutoCAD** has been good and positive. Best institute techears is best and friendly

 Like



**vishal panday**  
3 reviews · 2 photos

★★★★★ 9 months ago

Hie im vishal im student in softcrayons tech solution my course is autocad im happy becoz of my trainer and softcrayons atmosphere ...



**Nitesh Yadav**  
2 reviews

★★★★★ 2 days ago **NEW**

I have a great experience from softcrayons .Teaching method are well and good of all faculties. Specially thanks Dablu sir for CAD trainer .  
This is a best platform for increase your skills in autocad and many design softwares.



# **SOFTCRAYONS**®



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