INTRODUCTION

Autodesk Revit is building information modeling (BIM) software for architects, landscape architects, structural engineers, mechanical, electrical, and plumbing (MEP) engineers, designers and contractors. The original software was developed by Charles River Software, founded in 1997, renamed Revit Technology Corporation in 2000, and acquired by Autodesk in 2002. The software allows users to design a building and structure and its components in 3D, annotate the model with 2D drafting elements, and access building information from the building model's database. Revit is 4D building information modeling capable with tools to plan and track various stages in the building's lifecycle, from concept to construction and later maintenance and/or demolition

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Shad
CREATIVE EDUCATION LLP
AN ISO 9001:2015 CERTIFIED INSTITUTION

AUTODESK
REVIT

i. COURSE DESCRIPTION:

Teaches advanced building information modeling (BIM) software concepts and equipment designed to develop a general understanding of components of a typical Revit software system and its operation.

ii. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES IN WHICH IT IS TAUGHT:

This course is designed to enhance the computer knowledge the student already has and make the student capable of creating, editing and plotting quality 3D Moldings.

iii. REQUIRED BACKGROUND AND PREREQUISITES:

It is recommended that the student have basic computer skills, drafting and blueprint reading experience, elementary machine shop, and engineering technical mathematics. The student should have an understanding of orthographic projection, sectioning, dimensioning, isometric drawing, intersections and developments.

iv. COURSE CONTENT:

Students will draw individual exercise drawings during this course.

- ✓ About SHAD Creative Education centre
- ✓ Introduction to Engineering Drawings
- ✓ Projections (First & Third angle)
- ✓ Views (Orthographic, Isometric & Perspective)

Section-1

- ✓ Introduction o Building Information Modelling o Revit Architecture
- ✓ History
- ✓ Features
- ✓ Projects
- ✓ Project Templates
- ✓ Default Project Template
- ✓ Revit File Types
- ✓ Exploring the User Interface
- ✓ Building Elements
- ✓ Revit Elements and Families
- ✓ Starting a Project

Section-2

- ✓ Drawing Aids
- ✓ Project Units
- ✓ Listening and Temporary Dimensions
- ✓ Levels, Adding Levels, Modifying Levels, Level Properties
- ✓ Creating New Level Element Type, Constrain Level Lines, Remove Level Lines
- ✓ Walls, Drawing a plan as per dimension

Section-3

- ✓ Wall, wall properties, arc walls
- ✓ Creating a wall element type, compound structure

- ✓ Vertical compound walls, adding sweeps and reveals, wall shapes and openings, stacked walls
- ✓ Wall joins
- ✓ Working with grids

Section-4

- ✓ Editing Commands , Move , Copy , Paste
- ✓ Editing Pasted Elements
- ✓ Paste Aligned , Create Similar, Rotate, Mirror, Array, Scale, Trim / Extend, Offset, Align
- ✓ Doors , Placing Doors, Door Properties, Load From Family
- ✓ Windows, Placing Windows , Window Properties
- ✓ Constraint Doors / Windows
- ✓ Match
- ✓ Visibility Graphics
- ✓ Tape Measure

Section-5

- ✓ Components
- ✓ Loading Component, Placing Components, Modifying Properties
- ✓ Introduction to Modern Medium Library
- ✓ Managing Views
- ✓ Floor Plan View, Ceiling Plan View, Cutting a Plan View, Plan Region, Elevation View Section View, 3D Views, Cropping a View
- ✓ Visibility and Graphics Display, View Templates

Section-6

- ✓ Dimensions, Temporary Dimensions, Permanent Dimensions
- ✓ Constraints, Applying and Removing Constraints

Section-7

- ✓ Floors, Creating Floors
- ✓ Placing Elements on a Sloped Floor
- ✓ Ceilings, Creating Ceilings

Section-8

- ✓ Roofs, Roof by Footprint, Roof by Extrusion , Join/unjoin roofs , Roof Ridges
- ✓ Openings On Face, Vertical Opening, Shaft opening, Dormer opening, Wall opening

Section-9

- ✓ Curtain Walls, Creating Curtain Walls, Curtain Grids, Mullions
- ✓ Reshaping Curtain Wall Panels, Merging Curtain Wall Panels, Adding Curtain Door Panel
- ✓ Embedded Walls

Section-10

- ✓ Stairs o Creating Stairs o Stair Calculator o Modifying Stairs o Stair Properties
- ✓ Ramp
- ✓ Railing

Section-11 & 12

- ✓ Massing o Introduction
- ✓ Creating In-Place Masses using Forms
- ✓ Extrusion
- ✓ Revolve
- ✓ Sweeps
- ✓ Loft o Modifying Forms

- ✓ Adding an Edge to a Form
- ✓ Adding a Profile to a Form
- ✓ Rehosting Forms, Surface Forms
- ✓ Rationalizing Surface
- ✓ Patterning Surface, Mass Family
- ✓ Creating Building Elements
- ✓ Walls
- ✓ Mass Floors
- ✓ Curtain System
- ✓ Roofs

Section-13

- ✓ Text & Tag
- ✓ Callout views
- ✓ Creating Details o Inserting a Detail Component o Repeating Detail
- ✓ Drafting Views
- ✓ Import from CAD
- ✓ Reference Callouts

Section-14

- ✓ Schedules, Introduction
- ✓ Creating Schedule and Quantities
- ✓ Custom Parameters, Modifying Schedules, Material Takeoff, Exporting Schedule

Section-15

- ✓ Rooms
  Room Plans
  Room Separation Line and Boundaries , Room Schedule
- ✓ Areas
  Area Schemes, Area Plans, Area Boundaries, Area Tags Color Schemes
- ✓ Legend Views
- ✓ Keynotes

Section-16

- ✓ Structural Modelling, Structural Template, Structural Component Families, Structural Columns, Beams, Joins and Cutback, Beam System, Braces, Structural Walls Foundations, Structural Floor

Section-17

- ✓ Sheet o Title Block, Adding a Sheet, Adding Views to a Sheet, Modifying a View on a Sheet, Creating a Title Sheet
- ✓ Printing

Section-18

- ✓ Lights
- ✓ Rendering
- ✓ Walkthrough
- ✓ Solar Studies

Section-19

- ✓ Site Design, Creating Toposurface , Contours
- ✓ Contour line Label, Modifying Toposurface
- ✓ Subregion
- ✓ Split
- ✓ Merge, Building Pads, Graded Regions, Parking Components, Site Components

Section-20

- ✓ Working in a Team
- ✓ Introduction
- ✓ Worksets

Section-21

- ✓ Working with Linked Models, Linking Revit Models, Nested Link, Managing Links, Shared Positioning
- ✓ Acquiring and Publishing Coordinates

Section-22

- ✓ Design Option
- ✓ Project Phasing
- ✓ Export

Section-23

- ✓ Materials
- ✓ Decal
- ✓ Interference Checking
- ✓ Customizing Project Settings, Fill Patterns
- ✓ Line Styles and Line Weights, Line Patterns
- ✓ Import / Link
- ✓ Groups

Section-24

- ✓ In-Place Families, Setting Work Planes
- ✓ Creating and Modifying In-Place Families

Section-25

- ✓ Family Creation, Introduction
- ✓ Creating a Swing Door Family
- ✓ Creating a Sliding Window Family, Creating Arch Window Family
- ✓ Creating a New Furniture Family, Staircase Customization

v. CERTIFICATE:

At the end of the course, following satisfactory completion of the above, you will be presented with a certificate.

vi. PLAGIARISM AND ACADEMIC DISHONESTY:

Students will be expected to maintain complete honesty and integrity in their academic work in this class. Acts of academic dishonesty, such as cheating, plagiarism, or inappropriately using the work of others to satisfy course requirements, will not be tolerated and may result in failure of the affected assignments and/or failure of this class.