



# Autodesk Revit Structure 2016

- Starting Revit
- Starting Revit for the First Time
- Opening a Project File
- Identifying the User Interface Components
- Managing User Interface Components
- Understanding the Ribbon
- Customizing the User Interface
- Understanding the Quick Access Toolbar
- Understanding the Options Bar
- Understanding the Application Menu
- Understanding the InfoCenter Toolbar
- Using the Revit App Store
- Understanding the Project Browser
- Understanding the Properties Palette
- Understanding the Type Selector
- Understanding the Status Bar
- Understanding the Drawing Area
- Understanding the View Controls
- Understanding the Navigation Bar
- Understanding the ViewCube
- Understanding the Steering Wheels
- Understanding the Options Dialog

- Managing File and Template Locations
- Managing the Places List
- Starting a New Project from Recent Files
- Starting a New Project from the Application Menu
- Understanding Units and Snaps
- Using the Mouse
- Using the Keyboard
- Customizing Keyboard Shortcuts
- Managing Windows
- Understanding Macros
- Saving and Closing Files
- Closing the Application

## Revit Fundamentals

- Understanding BIM
- Understanding the Difference between BIM and CAD
- Understanding Revit Concepts
- Working with the Different Versions of Revit
- Understanding Bidirectional Associativity
- Recognizing Parametric Relationships
- Understanding Families
- Placing Model Elements

- Sketching Model Elements
- Placing View-Specific Elements
- Working with Datum Elements
- Placing Elements from the Project Browser
- Loading Families and Using Type Catalogs
- Finding Families Using Autodesk Seek
- Editing Families within a Project
  
- Selecting Objects
- Modifying Selection Settings
- Saving Selection Sets
- Copying and Moving Objects
- Rotating Objects
- Creating Linear Arrays
- Creating Radial Arrays
- Scaling Objects
- Mirroring Objects
- Using the Clipboard for Copy and Paste
- Splitting Objects
- Creating Elements Consistently with Match Type Properties and Create Similar
- Aligning Objects
- Trimming and Extending Objects

- Offsetting Objects
- Pinning Objects in Place
- Deleting Objects
- Cutting and Joining Geometry
- Splitting the Face of an Element
- Applying Materials as Paint
- Measuring versus Dimensioning Objects
- Understanding Element IDs
- Understanding and Reviewing Warning Messages

## Modeling Essentials

- Creating and Modifying Levels
- Creating and Modifying Grids
- Creating and Modifying Multi-Segment Grids
- Controlling Datum Visibility
- Limiting Visibility of Datum Using Scope Boxes
- Setting and Showing the Active Work Plane
- Creating Reference Planes
- Modeling Accurately with Length and Angle Snap Increments
- Working with Object Snaps
- Using Visualization Aids When Working in 3D Views

## Core and Shell

- Understanding Wall Drawing Aids
- Creating Exterior Building Walls
- Creating Building Core Walls
- Creating Doors
- Creating Windows
- Modifying Door and Window Properties
- Creating Curtain Walls
- Placing Doors in Curtain Walls
- Creating Curtain Wall Grids and Mullions
- Understanding Compound Structures
- Creating Floors
- Understanding Floor Instance Properties
- Understanding Floor Type Properties
- Creating Sloped Floors by Sketching
- Creating Sloped Floors by Shape Editing
- Creating Floor Openings
- Creating Shaft Openings

- Creating a Roof by Footprint
- Creating a Roof by Extrusion
- Joining and Unjoining Roofs
- Understanding Roof Instance Properties
- Understanding Roof Type Properties
- Working with Sloped Glazing Roofs
- Creating Sloped Roofs by Sketching
- Creating Sloped Roofs by Shape Editing
- Creating Conical Roofs
- Managing Complex Roof Conditions Using Align Eaves
- Creating Roof Soffits
- Creating Fascias
- Creating Dormer Openings
- Creating Roof Openings
- Modifying Roof and Wall Joins and Controlling Roof Visibility
- Creating Gutters and Downspouts

## Walls - An In-Depth Look

- Understanding Wall System Families and Types
- Creating Walls by Picking Lines
- Creating a Wall by Face
- Understanding Wall Properties
- Changing the Wall Type as Your Design Evolves
- Understanding Curtain Wall Types
- Creating a Curved Curtain Wall
- Embedding a Curtain Wall in Another Wall
- Creating Curtain Walls that Turn Corners
- Working with Curtain Wall Grids
- Selecting Curtain Wall Components
- Modifying Curtain Wall Panels
- Understanding Curtain Wall Corner Conditions
- Modifying and Customizing Curtain Wall Mullions
- Creating a Stacked Wall
- Creating Walls with Modify Tools
- Modifying Wall Profiles
- Creating Wall Openings
- Introducing Wall Layer Functions
- Overriding Host Layer Display

- Understanding Layer Join Cleanups
- Understanding Wall Layer Wrapping
- Customizing Vertical Wall Structure by Splitting Regions
- Customizing Vertical Wall Structure by Adding Sweeps
- Customizing Vertical Wall Structure by Adding Reveals
- Customizing the Base and Top Extension of Walls
- Creating Embedded Walls
- Creating In-Place Wall Sweeps
- Creating In-Place Reveals
- Creating Joined Walls for Complex Assemblies

## Building Structure

- Managing Structural Symbolic Representation Settings
- Understanding Structural Elements
- Creating Structural Columns
- Creating Slanted Structural Columns
- Understanding Structural Column Families
- Understanding Structural Column Properties
- Creating Isolated Foundations
- Creating Wall Foundations
- Creating Stepped Foundations
- Creating Foundation Slabs
- Creating Slab Edges
- Creating Structural Floors
- Creating Beams
- Creating Beams on Grids
- Creating Sloped Beams
- Understanding Beam Families
- Understanding Beam Properties
- Modifying Beams
- Creating Beam and Column Joins
- Modifying Elements with Coping
- Creating Beam Systems
- Creating Structural Walls
- Creating Structural Braces
- Creating Trusses
- Creating Openings in Structural Framing Elements
- Using the Section Shape Parameter

- Placing Rebar
- Managing the Shape Constraints of Rebar
- Placing Area and Path Reinforcement
- Placing Fabric Reinforcement
- Customizing Rebar Cover

## Stairs and Railings

- Creating Stairs by Component
- Creating Landing Components
- Creating Support Components
- Creating Stair Components by Sketching
- Modifying Stair Components
- Customizing Stair Documentation
- Understanding Stair by Component Properties
- Creating Stairs by Sketching the Run
- Modifying Sketched Stairs
- Understanding Stair by Sketch Properties
- Sketching Stairs with Landings
- Creating Stairs by Sketching Boundaries and Riser Lines
- Creating Spiral Stairs
- Creating Multi-Story Stairs and Shafts
- Creating Ramps
- Placing Railings on a Host
- Creating Railings by Sketch
- Modifying Railings
- Understanding Railing Properties
- Customizing Railing Properties

## Site Tools

- Introducing Site Tools
- Creating a Toposurface Using Points
- Creating a Toposurface from CAD
- Creating a Toposurface from a Points File
- Managing Site Settings
- Creating Toposurface Subregions and Split Surfaces
- Creating a Building Pad
- Creating a Graded Region
- Creating Site and Parking Components
- Creating Property Lines and Contour Labels

## Schedules and Tags

- Understanding Parameters
- Creating Project Parameters
- Creating Shared Parameters
- Understanding Schedules and Tags
- Placing Element Tags
- Working with Material Tags
- Creating a Schedule and Specifying Fields
- Modifying Schedules with Filters
- Modifying Schedules with Sorting and Grouping
- Modifying the Formatting of Schedule Titles and Headers
- Modifying Schedule Formatting
- Modifying the Schedule Appearance
- Placing Schedules on a Sheet
- Working with Calculated Values and Conditional Formatting in Schedules
- Creating and Managing a View List
- Working with Material Takeoff Schedules
- Importing and Exporting Schedule Views

## Annotation

- Working with Text Annotations
- Using Keyboard Controls to Add Symbols to Text
- Checking Spelling in a View
- Finding and Replacing Text
- Modifying Text Type Properties
- Specifying Keynoting Settings
- Creating Keynotes
- Modifying Keynotes and Keynote Settings
- Creating a Keynote Legend
- Working with Symbols and Note Blocks
- Working with Legends
- Managing Arrowheads

## Dimensions and Constraints

- Understanding Dimensions and Constraints
- Using Temporary Dimensions
- Modifying Temporary Dimension Settings
- Working with Permanent Dimensions
- Modifying Dimensions
- Modifying Dimension Graphics

- Modifying Dimension Text Appearance
- Creating and Modifying Dimension Styles
- Locking Dimensions
- Controlling Dimensions Using Equality Constraints
- Controlling Dimension Units
- Dimensioning Entire Walls
- Working with Spot Elevations
- Working with Spot Coordinates
- Working with Spot Slopes

## Drafting and Detailing

- Understanding Detailing
- Loading and Placing Detail Components
- Placing Repeating Details
- Creating a Repeating Detail
- Creating Detail Lines
- Specifying Draw Order
- Showing Hidden Lines in a Detail View
- Modifying the Cut Profile of Model Elements
- Overriding Linework in a View
- Creating Filled Regions
- Creating Masking Regions
- Creating Batt Insulation
- Placing Annotations in Detail Views
- Leveraging Detail Groups
- Saving Views to a File
- Inserting Views and 2D Elements from a File
- Creating Model Text and Model Lines

## View Graphics

- Working with Visual Styles
- Understanding Scale and Detail Level
- Understanding Plan View Range
- Understanding View Discipline
- Understanding View Templates
- Creating View Templates
- Applying and Assigning View Templates
- Creating View Types
- Understanding Object Styles
- Understanding Visibility and Graphic Overrides
- Creating Element and Category Overrides in a View

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- Creating Filter Overrides
- Using Temporary Hide or Isolate and Viewing Hidden Elements
- Using Temporary View Properties
- Understanding Crop Regions
- Creating a Non-Rectangular Crop Region
- Understanding Annotation Crop Regions
- Configuring System Family Coarse Scale Cut Patterns

## Views and Sheets

- Creating Plan Views and Reflected Ceiling Plan Views
- Creating a Plan Region
- Creating Building Elevation Views
- Creating Interior Elevation Views
- Creating Framing Elevation Views
- Changing the Elevation Symbol
- Creating Section Views
- Segmenting Section and Elevation Views
- Creating Callout Views
- Sketching a Callout View
- Creating Drafting Views
- Creating a Reference View
- Duplicating Views
- Creating Matchlines and View References
- Creating Additional View References
- Creating and Using Sheets
- Working with Viewports on Sheets
- Aligning Views on Sheets with a Guide Grid
- Using a Sheet List and Placeholder Sheets
- Creating Custom Titleblocks
- Creating a Key Plan
- Managing Sheet Issues and Revisions
- Creating Revision Clouds and Tags
- Adding a Revision Schedule to a Titleblock
- Creating Supplemental Drawings

## Printing and Publishing

- Understanding Printing and Publishing
- Printing and Managing Print Settings
- Printing to PDF
- Publishing Files to Buzzsaw

## Managing Your Projects

- Managing Project Information
- Understanding How the Location and Site Relate
- Specifying a Project Location
- Understanding Coordinate Systems
- Reporting and Displaying Coordinates
- Working with Coordinate Systems
- Relocating a Project
- Rotating True North and Project North
- Mirroring a Project
- Managing Project Browser View Organization
- Using Parameters and Filters for Browser Organization
- Managing Project Browser Sheet Organization
- Understanding Project Template Files
- Transferring Project Standards
- Deleting Unused Items from a Project
- Setting the Starting View

## Managing Settings

- Understanding Model and Drafting Patterns
- Managing Fill Patterns
- Managing Materials and Material Libraries
- Managing Material Properties and Material Assets
- Managing Line Styles
- Managing Line Weights
- Managing Line Patterns
- Managing Halftone and Underlay Settings
- Assigning Assembly Code Files

## Structural Design Analysis

- Introducing the Structural Analytical Model
- Controlling the Visibility of the Structural Analytical Model
- Modifying Structural Analytical Model Properties
- Adjusting the Structural Analytical Model
- Confirming Structural Analytical Nodes are Connected
- Understanding Analytical Structural Settings
- Running Structural Analytical Model Checks

- Applying Loads to the Structural Analytical Model

## Worksharing

- Introducing Worksharing Concepts
- Understanding Worksharing Terminology
- Enabling Worksharing in a Project File
- Creating the Central Model
- Creating a Local Model
- Creating Worksets
- Understanding Workset Visibility
- Understanding How Central and Local Files Communicate
- Closing a Workshared Project
- Understanding Editing Requests
- Understanding the Active Workset
- Understanding Worksharing Display Modes
- Specifying Open Worksets
- Managing Worksets in Linked Revit Files
- Working Offline and Editing at Risk
- Viewing the Workshared Project History
- Rolling Back Workshared Projects
- Detaching a File from Central

## Collaboration

- Linking Revit Models
- Managing Linked Revit Models
- Understanding Sites
- Linking Revit Models by Shared Coordinates
- Controlling the Coordinates in Linked Revit Models
- Controlling the Display of Elements in a Linked Model
- Scheduling Elements from a Linked Model
- Tagging Elements in a Linked Model
- Monitoring and Coordinating Changes within a Single Project
- Using Copy and Monitor in a Single Project
- Using Copy and Monitor with Linked Projects
- Performing a Coordination Review with Linked Models
- Checking For Interferences

## Groups

- Introducing Groups
- Creating a Model Group
- Creating and Managing Model Groups and Attached Detail Groups
- Creating Detail Groups
- Editing Groups
- Making Parameters Vary Between Groups
- Excluding Elements from Groups
- Converting Groups to Links
- Saving and Loading Groups

## Phases

- Introducing Phases
- Understanding Phases
- Managing Phases
- Understanding Phase Filters and Graphic Overrides
- Assigning Phases and Phase Filters to a View
- Understanding the Impact of Phases on Documentation
- Demolishing Elements
- Establishing Phases in Project Templates

## Design Options

- Introducing Design Options
- Working with Design Options and Option Sets

- Editing Design Options
- Duplicating and Deleting Design Options
- Creating Design Option Views
- Understanding the Impact of Design Options on Documentation
- Promoting and Accepting Design Options

## Construction Modeling

- Understanding Construction Modeling
- Creating Parts
- Modifying Parts
- Controlling the Visibility of Parts
- Dividing Parts
- Dividing Parts with Gaps and Profiles
- Merging and Excluding Parts
- Scheduling Parts
- Understanding Wall Joins and Parts
- Creating Parts from Linked Models
- Creating Assemblies
- Placing and Modifying Assembly Instances
- Creating Assembly Views
- Acquiring Assembly Views
- Modifying Assembly Views

## Advanced Modeling

- Introducing the In-Place Modeling Tools
- Creating In-Place Family Objects Using Solid Extruded Forms

- Creating In-Place Family Objects Using Solid Blended Forms
- Creating In-Place Family Objects Using Solid Revolved Forms
- Creating In-Place Family Objects Using Solid Swept Forms
- Enhancing In-Place Families
- Understanding Adaptive Components
- Using Adaptive Components to Create Building Elements

## Interoperability

- Importing and Managing Image Files
- Linking and Importing CAD Files
- Managing Linked CAD Files
- Controlling the Coordinates of a Linked CAD File
- Managing Imported CAD Files
- Controlling Line Weights in Imported CAD Files
- Using CAD Files to Create Building Model Objects
- Working with Point Clouds
- Working with IFC
- Exporting to 2D CAD Formats
- Exporting to 3D CAD
- Exporting Views to Image Files
- Exporting to IFC