Autodesk Revit Fundamentals for Structure

Course Length: 4 days

To take full advantage of Building Information Modeling, the Autodesk Revit Fundamentals for Structure training course has been designed to teach the concepts and principles of creating 3D parametric models of structural buildings from engineering design through construction documentation.

This training course is intended to introduce you to the user interface and the basic building components of the software that makes Autodesk Revit a powerful and flexible structural modeling tool. The goal is to familiarize you with the tools required to create, modify, analyze, and document a parametric model. The examples and practices are designed to take you through the basics of a full structural project, from linking in an architectural model, to construction documents.

Topics Covered

- Introduction to the Autodesk Revit software
- Basic drawing and editing tools
- Setting up levels and grids
- Working with views
- Starting a structural project based on a linked architectural model
- Adding structural columns and walls
- Adding foundations and structural slabs
- Structural reinforcement
- Beams, trusses, and framing systems
- Analytical models and placing loads
- Project practices to reinforce learning
- Construction documents
- Annotating construction documents
- Detailing and Scheduling

Prerequisites

This course introduces the fundamental skills in learning how to use the Autodesk Revit software, with a focus on the structural tools. It is highly recommended that students have experience and knowledge in structural engineering and its terminology.

Course description shown for Autodesk Revit 2020. Topics, curriculum, and/or prerequisites may change depending on software version.
Training Guide Contents

Chapter 1: Introduction to BIM and Autodesk Revit
  ▪ 1.1 BIM and Autodesk Revit
  ▪ 1.2 Overview of the Interface
  ▪ 1.3 Starting Projects
  ▪ 1.4 Viewing Commands

Chapter 2: Basic Sketching and Modify Tools
  ▪ 2.1 Using General Sketching Tools
  ▪ 2.2 Editing Elements
  ▪ 2.3 Working with Basic Modify Tools
  ▪ 2.4 Working with Additional Modify Tools

Chapter 3: Starting Structural Projects
  ▪ 3.1 Linking and Importing CAD Files
  ▪ 3.2 Linking in Revit Models
  ▪ 3.3 Setting Up Levels
  ▪ 3.4 Copying and Monitoring Elements
  ▪ 3.5 Coordinating Linked Models

Chapter 4: Working with Views
  ▪ 4.1 Modifying the View Display
  ▪ 4.2 Duplicating Views
  ▪ 4.3 Adding Callout Views
  ▪ 4.4 Creating Elevations and Sections

Chapter 5: Structural Grids and Columns
  ▪ 5.1 Adding Structural Grids
  ▪ 5.2 Placing Structural Columns

Chapter 6: Foundations
  ▪ 6.1 Modeling Walls
  ▪ 6.2 Adding Wall Footings
  ▪ 6.3 Creating Piers and Pilasters
  ▪ 6.4 Adding Isolated Footings

Chapter 7: Structural Framing
  ▪ 7.1 Modeling Structural Framing
  ▪ 7.2 Modifying Structural Framing
  ▪ 7.3 Adding Trusses

Course description shown for Autodesk Revit 2020. Topics, curriculum, and/or prerequisites may change depending on software version.
Chapter 8: Adding Structural Slabs
- 8.1 Modeling Structural Slabs
- 8.2 Creating Shaft Openings

Chapter 9: Structural Reinforcement
- 9.1 Structural Reinforcement
- 9.2 Adding Rebar
- 9.3 Modifying Rebar
- 9.4 Reinforcing Walls, Floors, and Slabs

Chapter 10: Structural Analysis
- 10.1 Preparing Projects for Structural Analysis
- 10.2 Viewing Analytical Models
- 10.3 Adjusting Analytical Models
- 10.4 Placing Loads

Chapter 11: Creating Construction Documents
- 11.1 Setting Up Sheets
- 11.2 Placing and Modifying Views on Sheets
- 11.3 Printing Sheets

Chapter 12: Annotating Construction Documents
- 12.1 Working with Dimensions
- 12.2 Working With Text
- 12.3 Adding Tags
- 12.4 Adding Detail Lines and Symbols
- 12.5 Creating Legends

Chapter 13: Creating Details
- 13.1 Setting Up Detail Views
- 13.2 Adding Detail Components
- 13.3 Annotating Details

Chapter 14: Scheduling
- 14.1 Structural Schedules
- 14.2 Graphical Column Schedules
- 14.3 Working with Schedules

Appendix A: Introduction to Worksets
- A.1 Introduction to Worksets
Appendix B: Additional Tools

- B.1 Reusing Selection Sets
- B.2 Placing Slanted Structural Columns
- B.3 Editing Wall Joins
- B.4 Creating Slab Types
- B.5 Creating Rebar Types
- B.6 Editing Plan and Section Profiles
- B.7 Working with Guide Grids on Sheets
- B.8 Revision Tracking
- B.9 Annotating Dependent Views
- B.10 Importing and Exporting Schedules
- B.11 Creating Building Component Schedules
- B.12 Creating a Repeating Detail

Appendix C: Project - Concrete Structure

- C.1 Start a Structural Project
- C.2 Create Foundation Elements
- C.3 Frame a Concrete Structure

Appendix D: Autodesk Revit Structure Certification Exam Objectives
Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company’s Training Coordinator (trainingcoordinator@rand.com)
- For all Training orders, cancellation notices must be submitted to trainingcoordinator@rand.com. Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

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