MERCURY

Autodesk Revit BIM Modeling Training Course

15 – 19 November 2027
Rome (Italy)



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Ref: 23_1081976 **Date:** 15 – 19 November 2027 **Location:** Rome (Italy) **Fees:** 7200 Euro

The Autodesk Revit BIM Modeling Course is a one-week practitioner course for architects, structural designers, and engineering coordinators establishing coordinated digital building information models. Working through parametric modeling workflows, multi-disciplinary work-sharing, and clash detection protocols, you assemble a complete Multi-Disciplinary Revit BIM Project Model and Delivery Package. This professional course is delivered by Mercury Training Center to strengthen technical delivery across project lifecycles.

About This Course

Design teams often face uncoordinated documentation, costly site clashes, and inefficient data exchange across disciplines. To benefit from this course, you must already draft architectural or structural plans using standard computer-aided drafting software. Through structured technical exercises, you practice creating parametric families, managing centralized work-sharing environments, and resolving spatial interferences across coordinated building models.

Who It Is For

- Professionals responsible for architectural detailing, floor plan layout, and building envelope design
- Professionals responsible for structural framing analysis, foundation modeling, and concrete reinforcement coordination
- Professionals responsible for mechanical ductwork, electrical routing, and plumbing service integration
- Professionals responsible for digital project delivery, multi-disciplinary model aggregation, and clash resolution

This course is not for complete beginners who require foundational introductions to general computer operating systems, nor is it for corporate procurement executives seeking high-level commercial contract administration instruction.

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Competencies You Will Build

- Parametric Family Authoring: Building custom parametric Revit families with standardized geometry and shared parameters for accurate project documentation.
- Multi-Disciplinary Work-Sharing: Managing central models, worksets, and synchronization workflows to maintain data integrity across collaborative design teams.
- Spatial Clash Resolution: Coordinating federated models in Autodesk Navisworks and resolving hard and soft discipline interferences using BIM Collaboration Format files.
- Automated Information Extraction: Generating automated quantity take-offs, component schedules, and material schedules directly from embedded model parameters.
- Open Data Exchange: Exporting structured Industry Foundation Classes models and validating geometric data using Information Delivery Specification rules.
- Information Management Compliance: Structuring model deliverables, level of development benchmarks, and common data environment exchanges in accordance with ISO 19650 principles.

What You Will Be Able to Do

By the end of the course you will be able to:

- From 2D architectural sketches and design briefs, construct complete 3D parametric building models incorporating walls, curtain systems, slabs, and stairs.
- Given complex architectural geometry requirements, create custom parametric component families with embedded dimensional constraints and shared property sets.
- Using Autodesk Navisworks and federated project models, perform multi-disciplinary clash detection audits and export issue reports in BIM Collaboration Format.
- From embedded model metadata and material quantities, generate automated door, window, and concrete volume schedules for cost estimation.
- Using Industry Foundation Classes and Information Delivery Specification standards, export vendor-neutral openBIM files verified for data completeness.
- Given multi-user project requirements, set up centralized Revit work-sharing files with allocated worksets to coordinate concurrent team modeling.

Course Content

Day 1: Parametric Architecture and Core Modeling Workflows

- Interface Navigation and Level Setup for Multi-Story Building Geometry
- Wall Systems, Curtain Walls, Doors, and Windows Placement Rules
- Floor Slabs, Roof Structures, Ceilings, and Vertical Circulation Systems
- View Management, Detailing Tools, Annotations, and 2D Sheet Generation
- Computer-Aided Drafting Integration and Vector Geometry Linking Protocols

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Day 2: Parametric Family Creation and Advanced Information Scheduling

- Family Editor Fundamentals and Reference Plane Framework Construction
- Dimensional Constraints, Family Types, and Formula Parameters Setup
- Shared Parameters and Project Parameters Configuration for Standardized Data
- Automated Quantity Schedules, Material Take-Offs, and Room Area Calculations
- Custom Title Block Families and Drawing Register Schedule Generation

Day 3: Structural Coordination and Multi-Disciplinary Work-Sharing

- Structural Grids, Columns, Framing Systems, and Foundation Element Modeling
- Workset Configuration, Central Model Creation, and Local File Synchronization
- Model Linking and Shared Coordinate Systems Alignment across Disciplines
- Mechanical, Electrical, and Plumbing Service Coordination and Interference Checks
- Level of Development Definitions and Model Progression Specifications

Day 4: Federated Coordination and openBIM Exchange Standards

- Model Aggregation and Multi-Disciplinary Federation in Autodesk Navisworks
- Clash Detective Configuration, Clearance Testing, and Hard Clash Analysis
- Issue Tracking and Communication Protocols Using BIM Collaboration Format
- Industry Foundation Classes Export Configuration and Property Set Mapping
- Information Delivery Specification Verification and buildingSMART Data Dictionary Alignments

Day 5: Collaborative Project Delivery and Model Finalization

- Exercise on Central Model Setup and Multi-User Workset Allocation
- Exercise on Navisworks Federated Coordination and Clash Resolution Matrix
- Exercise on Open Data Export and Information Delivery Specification Validation
- Exercise on Schedule Generation and Drawing Sheet Documentation Assembly
- Finalization of the Multi-Disciplinary Revit BIM Project Model and Delivery Package

Case Studies and Exercises

These suggested activities provide practical application of BIM modeling and coordination principles across operational environments:

- Case study: A commercial office development experiencing spatial clashes between structural transfer beams and mechanical duct routing where you coordinate central files and resolve service corridors.
- Case study: A multi-story residential facility requiring municipal permitting documentation where you audit parametric model properties against standardized building requirements and generate automated quantity schedules.
- Exercise: An infrastructure terminal building model federation where you execute Navisworks clash detection tests, document clearance interferences, and assign resolution responsibilities via BIM Collaboration Format reports.

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- Exercise: A custom building component library assignment where you build parametric curtain panel families with shared parameters and test their behavior under varying geometric constraints.

What You Take Back

The Multi-Disciplinary Revit BIM Project Model and Delivery Package equips you to establish structured modeling protocols, manage team work-sharing, and export verified project deliverables during your first month back at work. You will use it to coordinate multi-disciplinary design data, run clash detection audits, and generate automated documentation across your project teams.

- Parameter-rich architectural and structural central model template with pre-configured worksets
- Navisworks clash detection matrix and BIM Collaboration Format issue tracking template
- Standardized parametric component family library with embedded shared parameters
- openBIM Industry Foundation Classes export setup and information delivery audit checklist

Quick Answers FAQ

What background is required before attending the Autodesk Revit BIM Modeling Course?

You need practical experience in architectural, structural, or building services drafting and familiarity with general computer-aided design environments. Prior experience reading construction drawings ensures you can navigate parametric model elements and multidisciplinary coordination workflows effectively.

How does this course differ from general CAD drafting training?

General CAD drafting courses focus on drafting two-dimensional vector linework and disconnected drafting sheets. The Autodesk Revit BIM Modeling Course focuses on intelligent, parametric 3D building information modeling, multi-user work-sharing, automated schedule generation, Navisworks clash coordination, and ISO 19650-aligned data deliverables.

Why is parametric modeling critical in Autodesk Revit BIM workflows?

Parametric modeling links geometric elements directly to functional rules and embedded engineering properties. When any design dimension changes, Revit automatically updates all associated floor plans, sections, elevations, and material schedules simultaneously, eliminating coordination errors and accelerating project delivery across disciplines.

What work product do you take back from the Autodesk Revit BIM Modeling Course?

You take back the Multi-Disciplinary Revit BIM Project Model and Delivery Package, which includes structured central model templates, parametric family files, Navisworks clash matrices, and openBIM export presets to guide your real-world project deployments immediately.

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For Your Manager

This course equips your team member to develop coordinated building models, streamline multi-disciplinary work-sharing, and eliminate design clashes before construction begins. By completing the Multi-Disciplinary Revit BIM Project Model and Delivery Package, the participant brings back standardized modeling workflows, automated quantity take-offs, and openBIM validation protocols that can be implemented immediately on active architectural and engineering projects.