Autodesk Revit for Structural Engineers Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Autodesk Revit for Structural Engineers Training Course is designed to equip structural engineers, BIM professionals, civil engineers, consultants, project managers, and construction specialists with advanced Building Information Modeling skills. As digital transformation continues to reshape the Architecture, Engineering, and Construction (AEC) industry, proficiency in Autodesk Revit Structure, BIM workflows, parametric structural modeling, structural documentation, collaborative design, and digital construction has become essential. This training provides participants with practical expertise in developing intelligent structural models, producing accurate construction documentation, coordinating multidisciplinary projects, and integrating structural analysis into modern BIM environments.

Through hands-on exercises, real-world engineering projects, and industry case studies, participants will gain the competencies required to improve design accuracy, minimize project risks, enhance collaboration, automate structural documentation, and optimize project delivery. The course aligns with current global BIM standards and emerging technologies including Digital Twin, 4D BIM, 5D BIM, cloud collaboration, structural automation, construction digitalization, and AI-assisted design workflows, enabling professionals to deliver high-quality structural engineering solutions across residential, commercial, industrial, and infrastructure projects.

Programme Curriculum

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Course Duration

5 days

Course Objectives

By the end of this training, participants will be able to:

1. Master Autodesk Revit Structure for professional structural modeling.
2. Develop intelligent Building Information Models (BIM) for structural engineering projects.
3. Create accurate parametric structural families for beams, columns, foundations, and reinforcement.
4. Produce professional structural construction documentation using automated workflows.
5. Implement BIM coordination across architectural, MEP, and structural disciplines.
6. Apply clash detection and interdisciplinary coordination techniques.
7. Integrate structural analysis workflows with Autodesk and third-party engineering software.
8. Optimize project delivery through 4D BIM, 5D BIM, and digital construction practices.
9. Utilize BIM collaboration platforms and cloud-based project management tools.
10. Automate repetitive tasks using Revit automation, Dynamo, and parametric design.
11. Manage complex structural projects using industry-standard BIM execution plans (BEP).
12. Improve engineering productivity through AI-enabled BIM workflows and model optimization.
13. Deliver coordinated, sustainable, and standards-compliant structural engineering projects using international BIM best practices.

Target Audience

- Structural Engineers
- Civil Engineers
- BIM Engineers
- BIM Coordinators
- Structural Design Consultants
- Construction Project Managers
- CAD/Revit Technicians
- Engineering Graduates and Infrastructure Professionals

Course Modules

Module 1: Introduction to Autodesk Revit Structure & BIM Fundamentals

- Understanding Building Information Modeling (BIM)

- Revit interface and project setup
- Structural templates and project standards
- Coordinate systems and project organization
- Industry BIM standards and workflows
- **Case Study:** Development of a BIM model for a multi-story reinforced concrete office building.

Module 2: Structural Modeling in Autodesk Revit

- Structural grids and levels
- Modeling columns, beams, and braces
- Floors and structural framing
- Foundations and retaining walls
- Structural connections
- **Case Study:** Complete structural modeling of a commercial building.

Module 3: Advanced Structural Families

- Creating parametric structural families
- Family parameters and constraints
- Custom structural components
- Reinforcement families
- Family libraries and standards
- **Case Study:** Development of reusable structural family libraries for a consulting firm.

Module 4: Reinforcement Modeling and Documentation

- Rebar modeling
- Reinforcement detailing
- Concrete reinforcement schedules
- Structural annotations
- Automated quantity take-offs
- **Case Study:** Reinforcement detailing for a high-rise residential building.

Module 5: Structural Documentation and BIM Deliverables

- Structural sheets and layouts
- Sections, elevations, and details
- Schedules and material quantities
- Automated documentation workflows
- BIM documentation standards
- **Case Study:** Preparation of complete structural construction documentation for a hospital project.

Module 6: BIM Coordination and Collaboration

- Multi-disciplinary collaboration
- Linked BIM models
- Clash detection workflows
- BIM collaboration platforms
- BIM execution planning
- **Case Study:** Structural coordination with architectural and MEP teams for an airport terminal.

Module 7: Structural Analysis Integration and Automation

- Revit analytical model
- Exporting to structural analysis software
- Dynamo for structural automation
- Workflow optimization
- AI-supported BIM productivity
- **Case Study:** Automating structural modeling and analysis for an industrial warehouse project.

Module 8: Capstone Project and Industry Best Practices

- Complete structural BIM project
- Model validation and quality assurance
- BIM standards compliance
- Project presentation and review
- Industry implementation roadmap
- **Case Study:** End-to-end BIM development of a multi-story commercial complex incorporating digital collaboration and structural documentation.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com