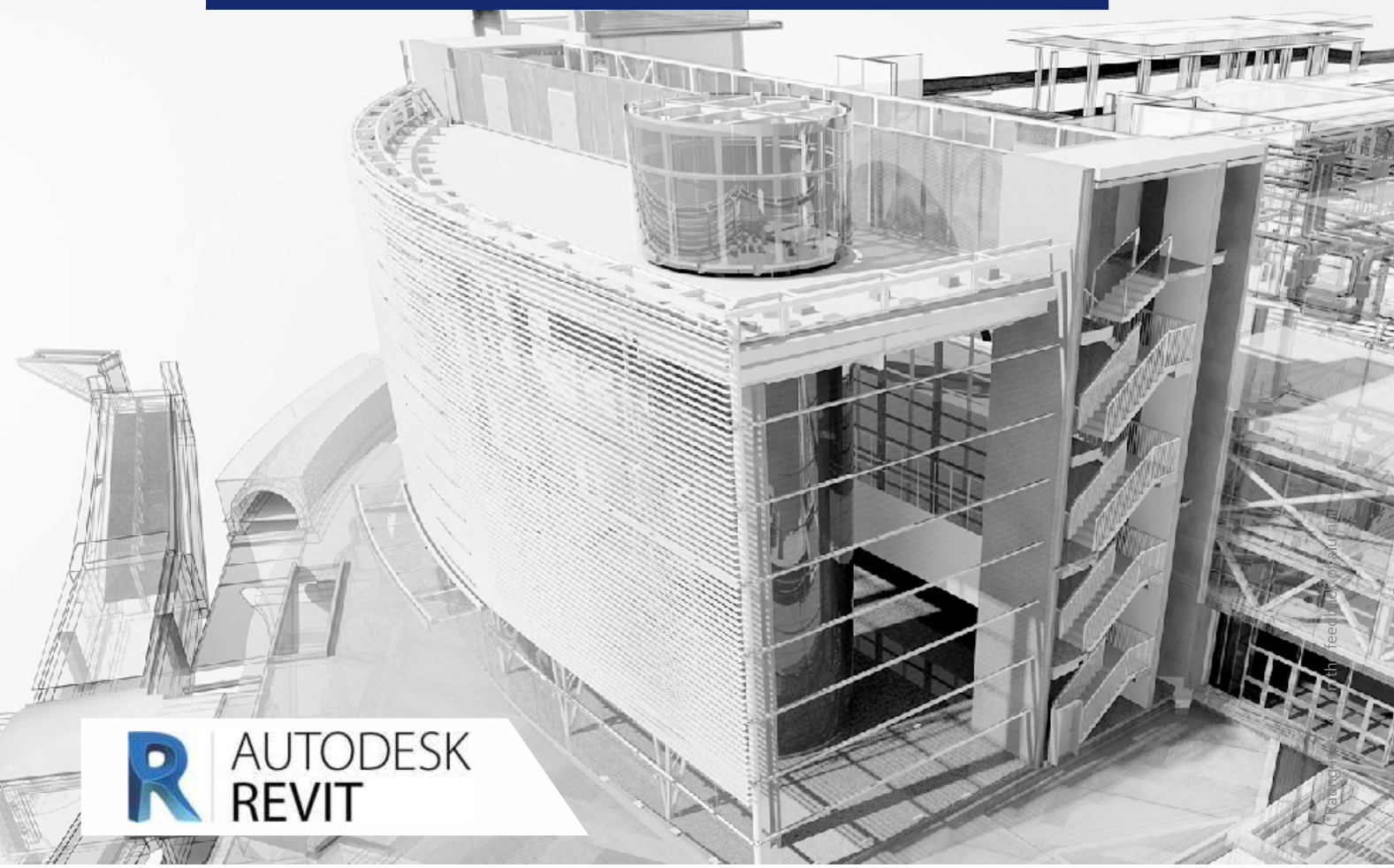
Building Information Modeling

BIM - The need of an hour:
To eliminate coordination mistakes; automatically coordinate design changes; detect clashes in building services; take better decisions and improve overall quality of work BIM platform is majorly used in complex projects. It allows better exchange of information between Client, Architects, Contractors, Engineers and Consultants through 3D digital interface. BIM is a model-based design concept, in which buildings are virtually built with respect to functional, economic, energy, etc. by superimposing various 2D drawings before they get built out in the field. BIM application is widely accepted throughout the industry in many countries for managing project information with capabilities for cost control and facilities management.



infini™ Feel the difference

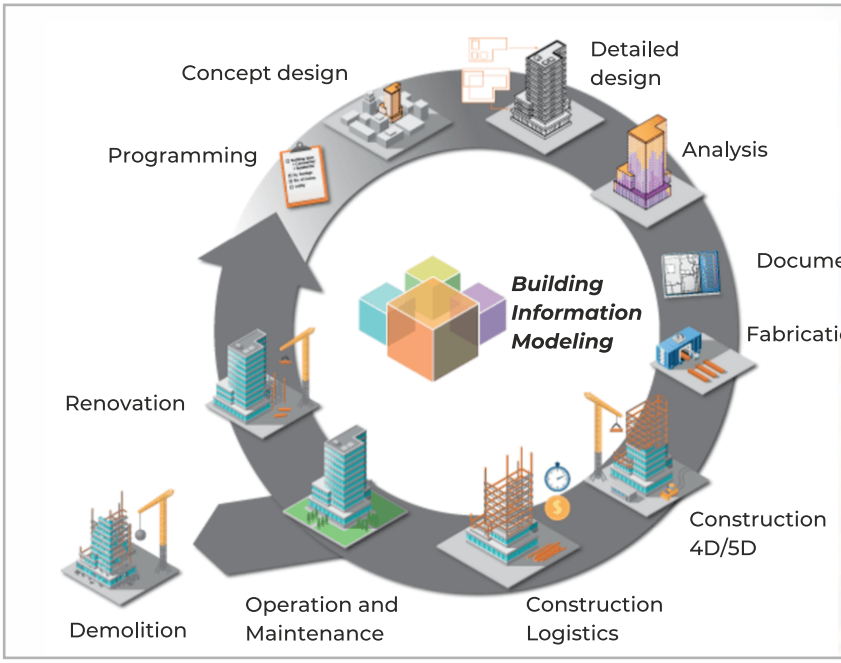
infini Institute of Construction Project Management, Pune
Recognised centre of EAL, UK

building competency skills

Building Information Modeling

Revit Architecture	40 hrs
Revit Structure	20 hrs
Revit MEP	20 hrs
BIM using Navisworks	16 hrs
BIM 360	4 hrs
Full BIM	**100 hrs**

What makes it best?: Hands on practice on live jobs



Offline batch
Saturday & Sunday
4 hrs a day @ 12 Weeks

Online batch
Monday to Friday
1.5 hrs a day @ 12 Weeks

Benefits of BIM

- Improves productivity and reduces cost
- Decreases reworks
- Enhances customer satisfaction
- Enables easy conflict resolutions
- Helps schedule construction process
- Allows improved coordination & better management
- Gives visual access to building information
- Gives complete project snapshot
- Repair, renovation and refurbishment becomes easy
- Supports detailed documentation

BIM in the construction industry :
All disciplines viz. design, plan, execute and operate involved with a project can share a single database. Architecture, structure, mechanical, electrical, infrastructure, and construction are tied together and challenge to coordinate them is unprecedentedly possible. Energy analysis can be done at early stage of design, and construction costs are becoming more predictable.

BIM allows use of a parametric 3D model to auto generate traditional building documents such as plans, sections, elevations, details, and schedules. Drawings produced using BIM supported software's are not of manually coordinated lines, but interactive representations of a model. The changes made in this Model are automatically coordinated throughout the project, which eliminates the coordination mistakes, improves overall quality of the work.

Importance of BIM:
BIM not only allows design and construction teams to work more efficiently, but it allows them to capture the data they create during the process to benefit operations and maintenance activities. BIM Interoperability is the ability of AEC project teams to work and communicate fluidly across disciplines and industries, regardless of preferred software tools and vendors. The benefits of BIM are through connecting teams, workflows, and data across the entire project lifecycle—from design and engineering to construction and operations—to realize better ways of working and better outcomes.

GET A CAP OF BIM MODELER / COORDINATOR

Who shall do this course (Eligibility) ?
The course is suited for professionals from Architecture, Engineering, Construction, Asset Management, Interior designers and Property Development Industry. Basic understanding of project planning, execution and MEP work is necessary for more benefit and quick learning.

What are the job opportunities?
Individual certification in Revit Architecture / Structure / MEP will open the door of Revit analyst, MEP analysts while full course of BIM helps open door of BIM Modeler, BIM Expert and in future BIM Specialist / Coordinator.

Is there any placement support?
Yes, infini's student gets placement support after completion of this course. Though the guarantee is not taken to place you, as per your eligibility, market scenario/ requirement, few contacts of job opportunities are shared.

Why should you learn?
BIM is more than just working in a 3D environment. The benefits of BIM can be seen heavily in the operational phase of assets and it is the aim of the course to ensure delegates build their knowledge in regard to all stages of a project. An understanding of BIM can drive greater efficiencies during the design, construction and operation phase is critical to BIM and these notions and ideas. The course will also introduce the relevant technologies that enable and support BIM and how these can be utilized on a project.

How should you learn?
For entire BIM course, one has to undergo all modules of Revit -Architecture, Structure & MEP; MS Project and Navisworks. Concepts of estimate and project budgeting are made clear in training of Revit modules while principles of planning are cleared in MS Project. The course gives you solid and thorough training on Navisworks, it helps professionals to gain control over project outcomes. Integrate, share, and review models and multi-format data.

What are the course objectives?
To prepare a learner to collaborate building design i.e. applications of 3D CAD (for Drawing & visualization), Navisworks (for Planning) and Revit Architecture for estimation and preparing BIM execution plan (BEP). After completion of program, learner can design and build in a virtual environment prior to starting construction, which helps to improve collaboration, increase building quality, and enhance the schedule while lessening opportunities for errors, resolving conflicts of various services.

Course syllabus

1. Introduction To BIM & Revit User Interface & Project Setup
1.1. Recent Files Screen
1.2. Creating A New Project
1.3. User Interface
2. Project Browser / Project Organization
2.1. Floor Plans, Ceiling Plans, Elevations, Sections, Details, 3d Views
2.2. View Organization, Legends, Schedules
2.3. Sheets, Families, Groups, Revit Links
2.4. View Navigation Elements
2.5. Datum / Host Elements / Hosted Components / Views / Annotations Levels / Grids / Reference Planes

a) Revit Architectural Modeling

3. Basic Architectural Modeling
3.1. Add Walls, Doors, Windows, Floors, Roofs
3.2. Properties Palette / Options Bar
3.3. Draw Options
3.4. Element Selection / Selection Filters
3.5. Modify Elements: Edit Tools / Modify
3.6. Tools/ Geometry Tools
3.7. Load Content / Family Libraries
3.8. Parametric Constraints (Level, Align, Eq, Dimensional Lock)
4. View Creation And Properties
4.1. Creating Plans, Elevations, Sections
4.2. Callouts, Details, Drafting Views
4.3. Duplicate Views
4.4. View Properties, Control Bar, Visibility Graphics
4.5. 3d Orthographic Views / Perspective Views / Right-Click Menu Option
5. Basic Structural Modeling
5.1. Grids & Columns
5.2. Floor Slabs / Slab Edges
5.3. Foundations
6. Develop a Project
6.1. Interior Layout
6.2. Rooms, Room Schedule, Door Schedule
6.3. Furniture, Fixtures, Equipment
6.4. Custom Wall Types, Curtain Walls, Stacked Walls
7. More Views
7.1. Color Fill Plans / Shadows
7.2. Perspective Camera View
7.3. 3D View Oriented to Other View
8. Ceilings
8.1. Ceiling View Properties
8.2. Automatic / Sketch-Based Ceilings
8.3. Continuous Ceilings / Cloud Ceilings /Soffits
8.4. Light Fixtures / Ceiling Elements
9. Detailing
9.1. Annotating Detail Views
9.2. Importing CAD Details
9.3. Detail Lines / Detail Components
9.4. Edit Cut Profile
9.5. Lock 3D View
9.6. Detail Groups & Group Editor
10. Vertical Circulation & Penetrations
10.1. Stairs, Ramps, Elevators
10.2. Railings / Railing Extensions
10.3. Multi-Level Vs. Single Story
10.4. Sketch Stairs / Component Stairs
10.5. Shaft Opening
11. Annotation And Sheet Composition
11.1. Model Views, Schedules, Legends, Drafting Views
11.2. Tags, Keynotes, Dimensions, Symbols, Detail Components
11.3. Creating Sheets, Adding Views, Activating/Deactivating Views
11.4. Issues And Revisions
11.5. Output
11.6. Printing / pdf / Settings
11.7. Export To DWFx / dwg / dgn / Settings
11.8. Export To IFC, gbXML
11.9. Export Images

b) Structural Modeling

12. Modeling Of Structural Element
12.1. Foundation, Column, Beam, Wall, Retaining Wall
12.2. Slab, Roof, Raft, Staircase
13. Reinforcement Modelling for all elements
13.1. Cover Setting
13.2. Rebar Placement, Rebar Sketch
13.3. Rebar Shape Understanding
14. Structural Steel Modeling
14.1. Create Structural Steel Elements
14.2. Column, Beam, Connection
15. Annotation & Sheet Composition
15.1. Model Views, Schedules, Legends, Drafting Views
15.2. Tags, Keynotes, Dimensions, Symbols, Detail Components
15.3. Creating Sheets, Adding Views, Activating/Deactivating Views
15.4. Issues And Revisions
16. Output
16.1. Printing / Pdf / Settings
16.2. Export To DWFx / dwg / dgn / Settings
16.3. Export To IFC, Export Images

c) MEP Modeling

17. MEP Basic
17.1. MEP Interface
17.2. Using The Included Working File
17.3. Working With Views
17.4. File Concept
17.5. Starting A MEP Project
17.6. Linking An Architect Revit File
17.7. Copy – Monitor Level And Grid
17.8. Copy – Monitor MEP Fixture
17.9. Initial Plan View, Project Information
17.10. Linking CAD File
18. Views
18.1. Controlling Visibility
18.2. Elevation & Section
18.3. Creating Callout
18.4. Ceiling Plans
18.5. View Template
18.6. Section Box, Scope Box
19. Space And Zone
19.1. Room And Room Tag
19.2. Creating Spaces, Modifying Spaces
19.3. Area And Volume Calculation
19.4. Creating Zone, System Browser & Zone
19.5. Color Scheme
20. Systems
20.1. System Browser
20.2. Graphic Overrides
20.3. Checking Systems, System Inspector
20.4. Duct Sizing
21. HVAC
21.1. Mechanical Setting – Duct
21.2. Air Terminal And Mechanical Equipment
21.3. Adding And Modifying Fittings
21.4. Ducts & Duct Systems
21.5. Automatic Ductwork Layout
22. Piping System
22.1. Plumbing And Pipe Work
22.2. Mechanical Setting – Pipes
22.3. Piping Systems, Adding & Modifying Pipes
22.4. Adding And Modifying Fitting
22.5. Generate Pipe Layout
23. Plumbing
23.1. Adding Plumbing Fixture
23.2. Modifying Plumbing Fixture
24. Electrical Systems
24.1. Electrical Settings, Components
24.2. Cable Tray & Conduit
25. Detailing
25.1. Creating Details
25.2. Adding Detail Lines
25.3. Detailing in 3D
25.4. Importing Details
25.5. Editing & Exporting Details
26. Family Creation
26.1. Parametric Family Creation
26.2. Basics Of MEP Family
27. Advance Steel Introduction
28. Civil 3D Introduction
29. Basic Encape For Rendering

d) BIM Coordination and Management

30. Navisworks as a BIM tool
30.1. Introduction
30.2. User Interface Tour
30.3. Compiling & Managing A Project
30.4. Exploring The Model
30.5. Reviewing, Redlining, Links, And Switchback
30.6. Viewpoint Creation, Sectioning, And Animation & Interactivity
30.7. Simulation & the Timeliner
30.8. Interference Management - Clash Detective Material Quantification

e) BIM 360 Docs

31. BIM 360 Introduction
31.1. Account-Level Configuration
31.2. Project Configuration
31.3. Common data environment
32. ISO 19650 Basic Introduction And Plannerly BIM masterclass

Tutor

Siddhant Pawar

BE Civil with 10 yrs plus exp. Worked with Tata Projects as BIM Manager, Bimage Consulting (Singapore) as BIM Coordinator and as a Quality Analyst in Neilsoft. Expert in Revit, Tekla, Autocad, Microsoft Office.

What are the learning outcomes?

Upon completion of course, one can

- Prepare 3D, 4D, 5D models
- Audit, check and review models
- Manage teams and projects
- Prepare BIM Execution Plan (BEP)
- Design project model
- Space planning & area analysis
- Prepare perspectives
- Create walkthroughs
- Construction scheduling
- Site utilization planning

Advance BIM:

- Detect internal and external clashes
- Identify time based clashes
- Cost estimation
- Energy Analysis

What is the learning method / pedagogy?: All the fundamentals are taught from the point of view of their practical applications on field. Actual drawings are shared with you to study and learn skills of taking-off quantity & preparing estimates and budgets. Basic concepts of project planning are made clear. Visualization and logical thinking skills are developed possibly through site visit. Assignments are given for study and confirmation of actual learning.

How does assessment take place?: After completion of major learning / topic, there is an assignment to judge your level of understanding of that particular chapter. Your performance is tracked and finally converted into 'Grade' which is reflected on the certificate.
Grading: A+: Excellent; A : Very good; B : Good; C: Satisfactory

How to pass and avail certificate?: You need to attend all sessions, complete all assignments, appear for an external viva, if any, and pay all fees to be eligible for this certificate. In absence of which you will get attendance certificate.

What are the requirements / pre requisite to undergo this training?

You need to be a positive learner. You shall bring a scientific calculator and laptop. Assignments shall be completed and submitted on time. 100% attendance is compulsory and generally, deliveries are not repeated.

Language of instruction: English (mostly) and Marathi or Hindi (if necessary)

Guarantee: Infini takes guarantee to imbibe necessary technical, applied and software skills into you to make to more efficient and deserving to handle responsibilities of the respective positions leading to increments and promotions.

Why choose us?

by EAL, UK

We build trust at infini. Along with quality delivery, at infini you are ensured to get

- Right Approach
- Right Curriculum
- Right Trainer
- Right Study Environment
- Right Skills Development

About Infini:
Infini Institute is a companionship of Civil Engineers & Architects formed with a motto of imparting value added competency skills enhancement training to the construction personnel, students and faculties at all levels to transform them into professionals. We are EAL, UK recognized center, 1st such center in India.

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1 Yr Full time Course - PG program in Construction Project Management (International Certification)

Short Term Certification Programs -

- BIM for Construction
- MS Project for Project Planning
- Concrete Technology & Formworking
- Construction Site Management
- Estimation, Billing & Budgeting
- Construction Quality Control
- Excel, AutoCAD, Word & Power Point
- Item Specifications & Drawing Reading

Upcoming courses -

- Value engineering & Cost control
- Construction Procurement Management
- Executing & Managing Highway projects
- ERP applications in Civil
- Certificate in MEP
- Tendering & Contracting of Civil Projects
- Property Valuation
- Modern Formwork Systems for Concrete

Other Services -
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- Customised Management Development programs
- Customised Execution Development programs
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