

## Course Description

The BIM MEP course at ACTMEP Training Institute is meticulously designed for freshers who aspire to build a career in the Mechanical, Electrical, and Plumbing (MEP) fields using Building Information Modeling (BIM) technologies. This course provides a solid foundation in BIM principles and practical skills, preparing participants to efficiently design, model, and manage MEP systems in a collaborative BIM environment.

## Course Objectives:

- Understand the basics of BIM and its significance in the MEP industry.
- Learn to create detailed MEP models using leading BIM software tools.
- Develop proficiency in coordinating MEP systems with architectural and structural designs.
- Gain hands-on experience in using Autodesk Revit MEP and Navisworks.
- Implement BIM standards and protocols in MEP projects.
- Enhance problem-solving and analytical skills specific to MEP design and management.

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### Number of Days

3 Months

### Continuing Education Hours

60 Hours

### Who Should Attend

- Civil Engineering  
Architecture
- Interior Design
- Construction  
Management

### Course Completion Certificate

Yes

### Software Used

Software Used: Autodesk Revit, Autodesk AutoCAD (for reference file), Navisworks, Twin motion, Autodesk Construction Cloud overview.



# ACT MEP

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## BIM MEP

### Course Outline

#### MODULE - 1 : Introduction to BIM

- Definition and concept of Building Information Modeling (BIM).
- Evolution of BIM in the AEC (Architecture, Engineering, and Construction) industry.
- Benefits and advantages of BIM over traditional methods.
- Overview of BIM processes and workflows

#### MODULE -2 : Fundamentals of BIM

- Dimensions of BIM: 3D, 4D, 5D, and beyond.
- Information exchange and collaboration in BIM projects.
- Importance of data management and interoperability.
- BIM maturity levels and adoption stages

#### MODULE -3 : BIM Software Tools

- Glimpse of popular BIM software tools (e.g., Autodesk Revit, ArchiCAD, Navisworks, BIM 360).
- Features and capabilities of BIM software for various project stages.
- BIM authoring, analysis, and coordination tools.

#### Module - 4: BIM Standards and Guidelines

- International BIM standards (e.g., ISO 19650, NBIMS).
- Industry-specific BIM guidelines and protocols.
- Compliance with local regulations and standards.

#### MODULE -5 : Introduction to Revit MEP

- Overview of Autodesk Revit MEP software.
- Introduction to the MEP (Mechanical, Electrical, Plumbing) discipline within Revit.
- Differences between Revit MEP and other BIM authoring tools.
- Softwares Used: Autodesk Revit

#### MODULE -6 :Basic Tools and Concepts

- Revit user interface and navigation.
- Introduction to basic modeling tools and commands.
- Understanding project templates and families in Revit.
- Softwares Used: Autodesk Revit

#### Module -7 : Building Systems and Components

- Overview of MEP systems in building design.
- Identification and classification of building components.
- Understanding the role of MEP systems in BIM projects.
- Softwares Used: Autodesk Revit

#### Module -8 : Building Systems and Components

- Exploration of HVAC, Plumbing, and Electrical design tools in Revit.
- Create and modify system components such as ducts, pipes, and conduits.
- Design features like duct sizing, pipe sizing, and circuiting.
- Softwares Used: Autodesk Revit



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## Module-9: MEP Parametric Modeling

- Introduction to parametric modeling concepts.
- Creating parametric families for MEP components.
- Utilizing parameters and constraints for flexible MEP design.
- Softwares Used: Autodesk Revit

## Module-10 : MEP Coordination and Collaboration

- Coordination workflows between MEP disciplines and other project stakeholders.
- Clash detection and resolution using BIM coordination tools.
- Collaborative design review processes in BIM projects.
- Softwares Used: Autodesk Revit, Navisworks, Revizto, BIM Track etc.

## Module-11 : BIM for Facility Management

- Utilizing BIM data for facility operation and maintenance.
- Integrating BIM models with facility management systems.
- Lifecycle management of building assets using BIM.
- Softwares Used: Autodesk Interoperability, Revit

## Module-12 : Test Projects and Practical Exercises

- Hands-on exercises to reinforce learning objectives.
- Building small-scale projects to apply BIM and Revit MEP skills.
- Testing knowledge through quizzes and assessments.