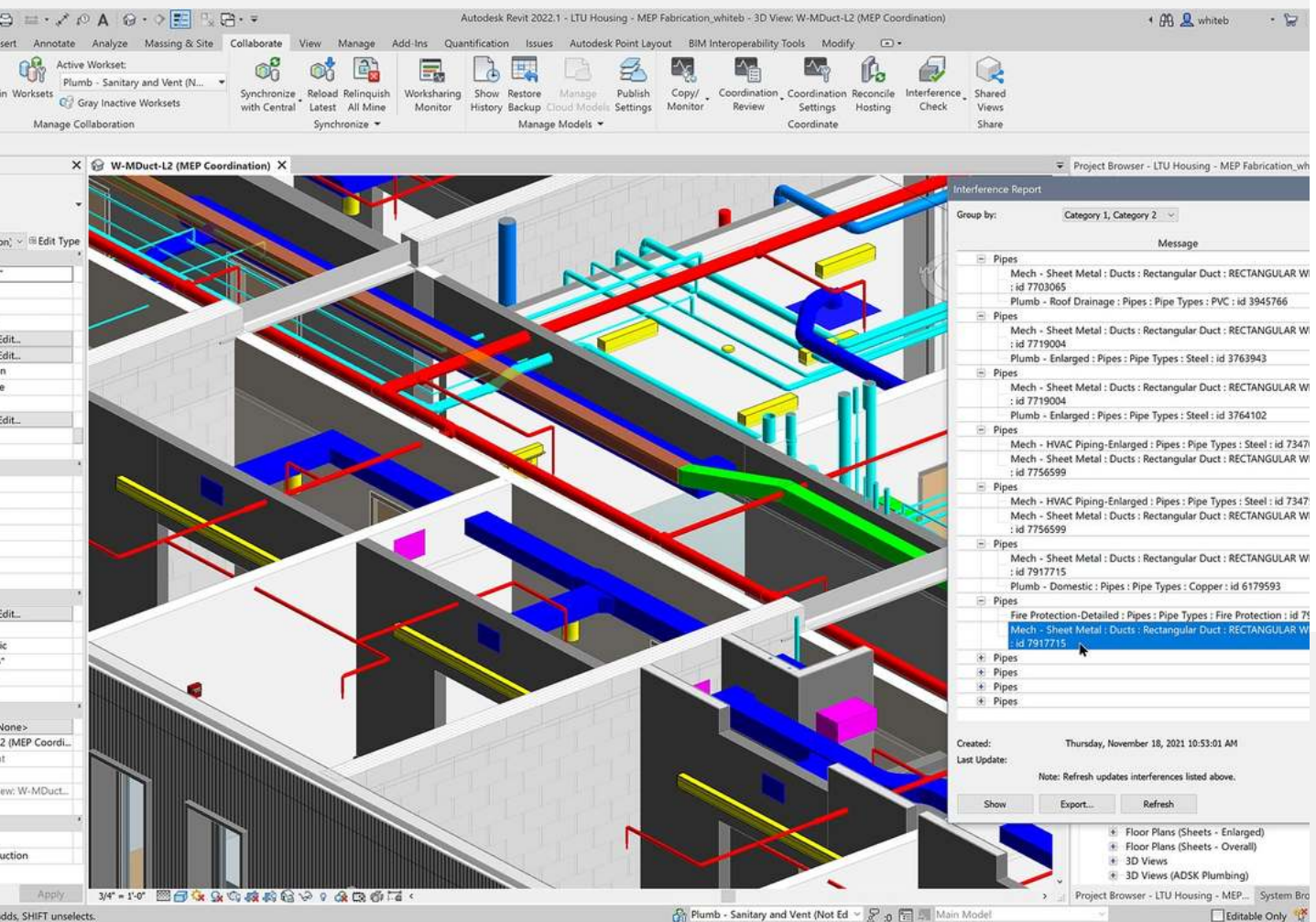


Syllabus

Mechanical **BIM** Professional Program (3 Months)

Foundation to Professional Level Training



WHY YOU SHOULD LEARN THIS COURSE?

Why You Should Learn This Course?

In today's construction industry, BIM is an essential skill for mechanical engineers working in ***HVAC, plumbing, fire protection, and other building services***—especially in US and UAE projects.

This industry-focused program prepares you to work as a BIM Engineer on international construction projects across HVAC, Plumbing, and Fire Protection disciplines.

What Will You Do in a BIM Company as a Mechanical BIM Engineer?

- Model HVAC, piping, and plumbing systems using Revit
- Detect and resolve clashes using Navisworks
- Collaborate with architects, structural engineers, and project stakeholders during BIM coordination.
- Prepare coordinated drawings, BOQs, and fabrication-ready models
- Work on international projects for malls, hospitals, airports, and metro systems

Program Highlights

- 110+ hours of hands-on BIM training
- 4 International Mechanical BIM Projects
- Training in HVAC, Plumbing & Fire Protection BIM
- BIM coordination using Navisworks
- Cloud collaboration using Autodesk Construction Cloud
- Portfolio & mock interview preparation

Mechanical BIM Professional Program

Duration: 03 Months (110+ hours, including project practice)

Software Covered

Revit Mechanical

Revit Plumbing

Revit Fire Protection

Navisworks Manage

Learn the complete Mechanical BIM workflow—from project setup to BIM coordination and documentation.

Tools & Others

Autodesk Construction Cloud (ACC)

BIM Coordination Tricks & Tips

4 International Mechanical BIM Projects

International Projects

4 High-Detail BIM Project Practices (Projects developed up to LOD 200, LOD 300, LOD 350)

Industry-Mentored BIM Project Training (Based on real Project Data)
(International BIM Projects developed up to LOD 200, LOD 300, 350 under expert supervision)

Note: This program focuses on industry-mentored BIM project training and does not include an external site internship.

Who Can Join?

- Mechanical Engineering Students
- Mechanical Engineering Graduates
- Diploma Holders in Mechanical Engineering
- Working Professionals in Mechanical Building Services
- Freshers aspiring to become Mechanical BIM Engineers



1. Introduction

- Difference between CAD & Revit
- Revit file extensions
- Understanding the Revit user interface

2. Starting a Revit Project

- Starting a project using Revit templates
- Link Revit models
- Link CAD drawings
- Copy levels and grids
- Setting up monitoring
- Creating floor plans
- Standalone project setup
- Central file in LAN-based server
- BIM 360 central file
- Difference between Standalone, Central & BIM360 files

3. Worksharing

- Creating and managing worksets
- Creating a central file in LAN server / BIM360
- Creating a local file from a central file
- Worksharing ownership
- Detaching and opening a central file

4. Basic Drawing & Editing Tools

- Selecting elements
- Selection filters
- Using TAB key
- Move and copy
- Copy & paste
- Rotate
- Mirror
- Array
- Extend and trim

- Align
- Scale
- Offset
- Re-hosting elements
- Groups (Model & Detail)

6. Detailing

- Detailing in:
 - Floor plans
 - Sections
 - Elevations
 - Callouts
 - Drafting views
- Creating drafting views
- Saving drafting views
- Loading drafting views into projects

7. Annotation & Documentation

- Dimensions
- Line styles
- Detail line vs model line
- Regions
- Detail components
- Annotation & tags
- Legends

8. Sheet Creation & Printing

- Sheets and sheet schedules
- Guide grids
- Viewports
- Title block properties
- Creating sheet sets
- Editing title block families
- Placing views on sheets
- Editing views in sheets
- Activating/deactivating views

- Viewport title settings
- View reference
- Revisions in views and sheets
- Printing
- Print set creation

9. Spaces & Zones

- Rooms and room tags
- Room schedules
- Creating spaces
- Space separation
- Creating zones

10. Mechanical (HVAC)

- Starting a mechanical project
- Mechanical tabs and tools
- Mechanical Settings (Duct & Pipe Systems)
- Mechanical equipment & air terminals
- Duct and pipe placeholders
- Duct modeling
- Pipe modeling
- Rectangular duct types
- Pipe types
- Routing preferences
- Justification settings
- Fittings and accessories
- Duct/Pipe systems
- System classification & types
- System graphic overrides
- Filters based on system type
- Airflow in terminals and equipment
- Reading mechanical drawings

11. HVAC BIM Advanced

- Equipment Connections
- Flexible Ducts
- Duct Accessories
- Mechanical Rooms
- HVAC Coordination

12. Plumbing

- Starting a plumbing project
- Plumbing tabs and tools
- Mechanical pipe settings
- Plumbing fixtures
- Pipe placeholders
- Pipe modeling
- Pipe types
- Routing preferences
- Pipe insulation
- Pipe modification
- Pipe systems
- System classification and abbreviations
- Graphic overrides
- System filters
- Reading plumbing drawings

13. Plumbing BIM Advanced

- Domestic Water
- Drainage
- Vent
- Storm Water
- Pipe Accessories

14. Fire Protection

- Sprinkler types
- Fire pipe systems
- Fire extinguishers
- Pipe modeling to:
 - FHC
 - Sprinklers
 - Risers
 - Foam cylinders
 - Fire brigade connections
- System classification and naming
- Graphic overrides
- System filters
- Disconnects
- Reading fire protection drawings

15. Fire Protection BIM Advanced

- Wet System
- Dry System
- Riser Modeling
- Pump Room
- Sprinkler Layout

16. Revit Families

- Family interface
- Family templates
- Types of families
- Family categories
- Instance vs type properties
- Parameter types
- Hosted vs non-hosted families
- Parameters and constraints
- Shared parameters

- MEP connectors
- Solid modeling
- Symbols and annotations
- Creating equipment families
- Visibility control
- Catalogue-based families
- Downloading families from manufacturer websites
- Creating title block families

17. Schedules

- MEP schedules and quantities
- Fields
- Filters
- Sorting and grouping
- Formatting
- Appearance



1. Introduction to Navisworks Manage Interface

- Overview of Navisworks Manage for BIM coordination
- Navigating the interface: Ribbon, toolsets, selection tree, and workspace
- View controls: Zoom, pan, orbit, walk, fly, and ViewCube
- Understanding model hierarchy and discipline segregation

2. Setting Up a Navisworks Coordination Model

- Exporting discipline models from Revit to Navisworks (NWC workflow)
- Appending and managing multiple discipline models (Architecture, Structure, MEP)
- Creating and managing Federated Coordination Models
- Understanding file types: NWC, NWD, and coordination workflows

3. Visualization, Animation, and Walkthroughs

- Model visualization techniques for coordination and review
- Creating walkthroughs and basic animations for design understanding
- Saving viewpoints

4. Clash Detection and BIM Coordination

- Introduction to clash detection workflows in Navisworks Manage
- Creating and running clash tests (Hard, Soft, Clearance clashes)
- Analyzing clash results and grouping clashes
- Managing clash issues through viewpoints and coordination workflows
- Coordinating with multidisciplinary teams using clash reports

AUTODESK Construction Cloud

1. Introduction to ACC & BIM 360

- What is Autodesk Construction Cloud?
- Difference between BIM 360 & ACC
- Real-time collaboration & cloud-based workflows
- ACC Modules: Docs, Build, Collaborate, Takeoff (brief intro)

2. User Interface & Project Navigation

- Logging in and navigating the ACC platform
- Dashboard overview
- Accessing multiple projects
- Role-based access and permissions

3. Document Management (Docs Module)

- Uploading & organizing drawings and models
- Version control
- Markups, issues, comments
- Comparing drawing versions

4. Model Coordination & Review (15 mins)

- Viewing and navigating 3D models in browser
- Clash viewing (Model Coordination intro)
- Section views, properties, and measurements
- Assigning and tracking issues

5. Real Project Collaboration Workflow

- Sample use case: Architect, Structural & MEP coordination
- Exporting issues and reports
- Real-world project examples
- Closing discussion/Q&A

Real Project BIM Workflow

ACC Best Practices

BIM Coordination Tricks & Tips

BEP (BIM Execution Plan)

Design Inputs

International Project Standards

**Gain hands-on experience in
Mechanical **BIM** projects and become
a skilled BIM professional.**

Overview of Our Projects

Our parent company, DDG BIM Services Pvt. Ltd., executes BIM projects across the Middle East, the US, and the UK, where BIM is an essential part of the design and construction process. This allows you to learn industry-standard workflows, best practices, and project methodologies used on real international projects.

You will also understand different Levels of Development (LOD) and learn how detailed and accurate a BIM model should be at each stage of a project.

Each project follows a real-world AEC workflow, where you will collaborate with architecture and structural teams while developing and coordinating HVAC, Plumbing, and Fire Protection BIM models. You will gain hands-on experience in model coordination, clash detection, and project documentation—just like in a real BIM project environment.

- **Project 1 – Commercial HVAC Building**
- **Project 2 – Residential Plumbing System**
- **Project 3 – Hospital Fire Protection System**
- **Project 4 – Integrated Mechanical BIM Coordination**

Mechanical (HVAC)

Project 1: Commercial Building (UAE-Based)

Objective

- This project focuses on developing a BIM model at LOD 200, where students will create a more refined model with approximate geometry and system placement.
- You will learn how to model HVAC systems in Revit using the relevant design inputs.

Plumbing

Project 2: Commercial/ Residential Building (US/UAE-Based)

Objective

- This project focuses on developing a BIM model at LOD 200, where students will create a more refined model with approximate geometry and system placement.
- You will learn how to model Piping systems in Revit using the relevant design inputs.

Fire Protection

Project 3: Commercial/ Residential Building (US/UAE-Based)

- This project focuses on developing a 3D model of Fire Sprinkler System using Revit,

Integrated Mechanical BIM Coordination

Project 4: Commercial/ Residential Building (US/UAE-Based)

Objective

- This project focuses on integrating HVAC, Plumbing, and Fire Protection systems into a single coordinated BIM model for a commercial building, following industry-standard BIM workflows.
- Students will learn how to coordinate multiple mechanical disciplines in Revit, identify and resolve clashes, maintain model accuracy, and prepare a coordinated BIM model ready for documentation and project delivery.

BIM Mock Interviews; CV & Portfolio Preparation

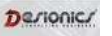
What You Will Receive

- ✓ 80+ BIM Interview Questions
- ✓ Real-Time Mock Technical Interview
- ✓ Professional CV Preparation
- ✓ Project Portfolio Development
- ✓ Interview Guidance & Feedback
- ✓ English Communication for the AEC Industry
- ✓ Confidence Building for Real Job Interviews

Why This Matters

Our placement preparation program helps students improve their technical knowledge, communication skills, and interview confidence, making them better prepared for careers in the global BIM industry.

BIM CAFE ALUMNI — SUCCESSFUL PLACEMENTS

 SAI ARAVIND VIT, CHENNAI Btech Civil Engineering (2025-Batch) Placed as BIM INTERN AT 	 SNEHA DEV GOVERNMENT ENGINEERING COLLEGE SREEKESHRAPURAM PALAKKAD Btech Civil Engineering (2025-Batch) Placed as JUNIOR BIM ENGINEER AT 	 ADHIL NP JDT ISLAM POLYTECHNIC COLLEGE Diploma in Civil Engineering (2025-Batch) Placed as JR BIM MODELER AT 
 KEERTHANA P ST THOMAS COLLEGE OF ENGINEERING AND TECHNOLOGY, MATTANUR, KANNUR Btech Civil Engineering (2025-Batch) Placed as BIM INTERN AT 	 JESWIN ABRAHAM MATHEW SAINTGITS COLLEGE OF ENGINEERING Btech Civil Engineering (2024-Batch) Placed as BIM INTERN AT 	 KRISHNAPRIYA P K CUSAT, KALAMASSERI B. Tech Civil Engineering (2022-Batch) Placed as DRAFTMAN AT 
 VISHNU SUDHEER UNIVERSAL ENGINEERING COLLEGE B-tech Civil (2020-Batch) Placed as BIM MODELER AT 	 HARIMURALI V CARMEL COLLEGE OF ENGINEERING AND TECHNOLOGY Civil Engineering (2025-Batch) Placed as BIM MODELER AT 	 AKASH S CARMEL COLLEGE OF ENGINEERING AND TECHNOLOGY Btech Civil Engineering (2025-Batch) Placed as BIM ENGINEER (INTERNSHIP) AT 
 LINO SOMAN FISAT Btech in Civil Engineering (2022-Batch) Placed as BIM TRAINEE AT 	 ATHULYA K S SCMS SCHOOL OF ARCHITECTURE B Arch (2023-Batch) Placed as BIM TRAINEE AT 	 GOWTHAM MURALEEDHARAN SN POLYTECHNIC COLLEGE KANHANGAD Diploma in Civil Engineering (2022-Batch) Placed as BIM TRAINEE AT 
 ALANRAJ N JDT ISLAM POLYTECHNIC COLLEGE Diploma in Civil Engineering (2025-Batch) Placed as JR BIM MODELER AT 	 SHAJI C GOVERNMENT POLYTECHNIC COLLEGE PERINTHALMANNA Diploma in Civil Engineering (2001-Batch) Placed as JR BIM ENGINEER AT 	 NANDAGOPAL D SAINTGITS COLLEGE OF ENGINEERING Btech Civil Engineering (2024-Batch) Placed as BIM INTERN AT 
 AKASH MR MAR ATHANASIOS COLLEGE OF ENGINEERING, KOTHAMANGALAM Btech & Electronics Engineering (2019-Batch) Placed as JR. BIM MODELER AT 	 SREEJITH.O.K CARMEL POLYTECHNIC COLLEGE Diploma in Mechanical Engineering (2021-Batch) Placed as JUNIOR BIM MODELLER AT 	 PARVATHY M R REGIONAL INSTITUTE OF ENGINEERING B-tech Civil (2019-Batch) Placed as BIM FACULTY AT 
 ADHILA EBRAHIM KMEA ENGINEERING COLLEGE, EDATHALA Btech Civil Engineering (2025-Batch) Placed as BIM MODELER TRAINEE AT 	 KAVYA V COLLEGE OF ENGINEERING PATHANAPURAM BTech in Civil Engineering (2017-Batch) Placed as BIM MODELER AT 	 SAMIN SULAIMAN NRM SCHOOL OF ARCHITECTURE (CUSAT) B Arch (2025-Batch) Placed as BIM MODELER AT 
 BASIL M ALEAYAS MBITS BTech Mechanical (2022-Batch) Placed as REVIT MEP MODELLER AT 	 JULIET JOYICHEN SCMS SCHOOL OF ARCHITECTURE, KARUKUTTY B Arch (2024-Batch) Placed as BIM MODELER (TRAINEE) AT 	 ADITH SHABU PRIST UNIVERSITY, CHENNAI Btech & Electronics engineering (2023-Batch) Placed as JR BIM MODELER / BIM MEP MODELER AT 

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For further placement details, visit: <https://bimcafe.in/placements.php>

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BIM Cafe Learning Hub

AUTHORISED TRAINING CENTER

Ernakulam, India

SITE ADDRESS / COUNTRY

India

APPROVED TERRITORY**

SITE AUTHORISATION VALID UNTIL: 01 FEBRUARY 2026

AUTODESK
Authorized Training Centre

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COURSE TITLE
NAVISWORKS MANAGE 2020
PRODUCT
RAJITHA M
INSTRUCTOR
07-JUNE-2025
COURSE DATE
33-48 HOURS
COURSE DURATION

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MASTER BIM COURSE, AUTOCAD
COURSE TITLE
AUTOCAD 2020
PRODUCT
RAJITHA M
INSTRUCTOR
07-JUNE-2025
COURSE DATE
33-48 HOURS
COURSE DURATION

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RAJITH KESHAN, R
NAME
MASTER BIM COURSE, RECAP PRO
COURSE TITLE
RECAP PRO 2020
PRODUCT
RAJITHA M
INSTRUCTOR
07-JUNE-2025
COURSE DATE
33-48 HOURS
COURSE DURATION

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Certificate No. **AP703180098319055349524**

RAJITH KESHAN, R
NAME
MASTER BIM COURSE, REVIT
COURSE TITLE
REVIT 2020
PRODUCT
RAJITHA M
INSTRUCTOR
07-JUNE-2025
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