

Autodesk Navisworks: Clash Detection and Quantification

Target Audience

This course is intended for BIM coordinators, project managers, architects, structural engineers, MEP engineers, and construction professionals who are new to Autodesk Navisworks and wish to develop foundational skills in model coordination, clash detection, and quantification. It is equally suitable for contractors and quantity surveyors seeking to use Navisworks to streamline project workflows and reduce on-site errors through digital model review.

Course Objective

To introduce participants to the core capabilities of Autodesk Navisworks for multi-discipline BIM coordination. This course focuses on enabling learners to import and federate models from different disciplines, run and manage clash detection tests, review and assign coordination issues, perform basic quantification of building elements, and create professional presentations and reports for project teams and stakeholders.

Course Outcome

Upon completing this course, participants will be able to navigate the Navisworks interface with confidence, import and federate multi-discipline models from Revit, AutoCAD, and other platforms, set up and run hard and soft clash tests, review and annotate clash results, assign issues to responsible team members, measure and quantify building elements by area, volume, and count, export quantification data to Excel, and produce viewpoints, animated walkthroughs, and professional coordination reports for project delivery.



Course Outline: The course comprises **32-hours** of theory and demonstrations and is divided into **6** different chapters. Each chapter is designed with practical examples and guided exercises to reinforce learning and ensure a strong understanding of BIM coordination, clash detection, and quantification workflows.

Chapter 1: Introduction to Navisworks for Clash Detection

- What is Clash Detection?
- Importance of Clash Detection in BIM Workflows
- Overview of the Navisworks Interface and Navigation Tools
- **Practice Exercises**

Chapter 2: Importing Models

- Supported File Types (Revit, AutoCAD, IFC, and more)
- Linking and Federating Multiple Discipline Models
- Coordinating Model Units, Origins, and Coordinate Systems
- **Practice Exercises**

Chapter 3: Basic Clash Tests

- Setting Up Clash Detective Tests in Navisworks
- Defining Clash Rules: Hard Clashes, Soft Clashes, and Clearance Tests
- Running a Clash Test and Generating a Clash Report
- **Practice Exercises**



Chapter 4: Reviewing Clashes

- Navigating and Filtering Clash Results in the Clash Detective Panel
- Assigning Responsibility for Clash Issues to Team Members
- Marking Up Issues with Notes, Status Labels, and Viewpoints
- **Practice Exercises**

Chapter 5: Quantification Basics

- Introduction to Navisworks Quantification Workbook
- Measuring Elements by Areas, Volumes, and Counts
- Creating and Customising a Quantification Report
- Exporting Quantification Data to Microsoft Excel
- **Practice Exercises**

Chapter 6: Basic Presentation

- Creating and Managing Saved Viewpoints
- Animating Navigation Through 3D Models Using the Animator Tool
- Exporting Clash Reports, Quantification Reports, and Video Walkthroughs
- **Practice Exercises**

