Overview

Autodesk Navisworks: Using Autodesk Navisworks in a BIM Workflow course teaches you how to better **predict project outcomes, reduce conflicts and changes, and achieve lower project risk** using the Autodesk® Navisworks® Manage software in a BIM workflow.

During this course you will learn how to **consolidate civil, architectural, structural, and MEP models into one BIM model.** Starting with an AutoCAD® Civil 3D® drawing file, you will append various Autodesk® Revit® and Autodesk® Inventor® models and check for conflicts. Next, you will use review and markup tools for communicating issues across disciplines. Finally, you will use TimeLiner, Animator, and Clash.

Features and Benefits

1. The CAD Corporation (Pty) Ltd is a **registered Autodesk Training Provider.**

2. Get **12 months** access to your course via our **myWay Learning Platform** that includes video lectures, extra resources, questionnaires and much more.

3. Take full advantage of our new **Hybrid Learning** by attending on **campus** or **virtually.** Have all your classes ready to be **downloaded** and **watched**, anytime, anywhere.

4. Attendees will **gain confidence** and enhance their practical skills and knowledge in this field.

5. Use Navisworks® project review software to improve BIM (Building Information Modelling) coordination.

6. **Navisworks** is not a 3D modelling program but a program that converts large **REVIT** 3D model files into smaller 3D models that are far more manage able for a multitude of team members.

7. It will not be a program to replace REVIT, but a tool that works in conjunction with REVIT and makes certain processes much more efficient.

Course Prerequisites

•   Access to software. Practices and files in this guide might not be compatible with prior versions.

•   This learning guide is designed for new and experienced users of the Autodesk Navisworks software in multiple disciplines. A working knowledge of 3D design and task-scheduling software is recommended.

Duration

In Class/Virtual Class, Hybrid Learning
2 Days (08:30 – 16:00) Classes are presented via our **Hybrid Learning** allowing learners the **flexibility** to attend on campus or in the comfort of their home or workplace.

Online, Mentored Learning
12 Months (Self-paced, access anytime, anywhere via our myWay Learning Platform)

Payment Options

Full course fee payable upfront or apply for our 3 Month Finance Option (Deposit R2000 upfront, 3 Months' payment terms)

An **additional fee** is payable for accredited courses & exam vouchers.

Course Accreditations

•   The CAD Corporation (Pty) Ltd is a registered **Autodesk Training Provider.**

What you get

On completion the learner will earn:

•   **Certificate of Completion** from **Autodesk**
•   No official exam available for this course.

Note: All certificates are electronically issued.

Course Outline

Module 1: Navisworks in a nutshell

A brief interactive session to enthuse the delegates and give a feel for the products capability

- Opening and appending a number of models
- Navigate the model
- Create an animation
- Run a simulation
- Perform an interference check
- Export a clash test report
- Material takeoff

Module 2: Introducing Navisworks as a BIM tool

Political positioning of Navisworks within the wider BIM context, this is a lecture only and will often be taken out and delivered as part of an executive overview

- What does Navisworks do?
- Summary of Capabilities Role in Construction and BIM - What is BIM and what does it mean? The Benefits of BIM What will BIM Deliver? BIM Enabled Tools
- Where does Navisworks Fit?
- So who is BIM for and which of them will use it?
- Industry Drivers
- UK BIM Maturity Levels Team and Workflow Changes
- Implications on team and workflow; fees and deliverables; contract and insurance issues

Module 3: UI Tour

Interactive session introducing the menu and screen layout, important tools and dialogue locations followed by a tour through the basic project review features. This lecture is delivered through an interactive guided tour of a sample project.

- Exploring the user interface
- Application button, menu, Scene View Quick
- Access Toolbar, Navigation bar
- InfoCenter, Dockable windows
- Ribbon, Status bar, using the commands
- Menus, toolbar, ribbon, tooltips, keytips, navigation tool
- Dockable windows, workspaces -
- Keyboard shortcuts
- Project navigatio

Module 4: Compiling and managing a project

This module is presented as a lecture followed by an exercise, it provides an insight into the options and settings in Navisworks before exploring the large number of file formats and file readers available, and finally looking at how a project is compiled and the files saved and manage

- Options o File options Global options
- File formats - Native - NWD, NWF and NWC
- Compatible types
- File readers
- File exporters
- Appearance Profiler
- Managing files and batch utility
- View scene statistics and collaborate

Module 5: Exploring the model

Political positioning of Navisworks within the wider BIM context, this is a lecture only and will often be taken out and delivered as part of an executive overview

- Exploring the model
- Navigating a scene, orientation in the model Controlling the realism
- Speed, gravity, crouching, collision, third person
- Controlling model appearance
- Render styles, mode, lighting, background and primitives - Controlling render quality

Module 6: Reviewing, redlining, links and SwitchBack

This module focuses on how a model is reviewed, using the find and compare tools, and how annotation, redlines and data can be attached to objects in order to highlight and comment on coordination issues. We review how SwitchBack workflow is used in different project environments

- Interactive geometry
- Find and compare objects
- Manipulate and transform objects
- Redlining, comments and tags
- Links to objects and Switchback

Module 7: Viewpoint creation, sectioning and animation

This module is presented as a lecture followed by an exercise, begins with the creation and modifying of model viewpoints, and then looks at the use of sectioning to create more focused views of the model and finally these viewpoints are used to create animations to be saved as video files.

Delivery Methods

- Campus-based
- On-Site
- Virtual Live
- Online Self-paced

- Viewpoints and sectioning
- Using viewpoints
- Sectioning planes and boxes
- Record and play animations
- Viewpoint animations
- Interactive animations
- Create and export as videos and slideshows

Module 9: Animation and Interactivity

This lecture and associated exercise introduces delegates to the animator and the scripter tools. It explores how these are used in combination to produce animations and then add interactivity using scripts that based upon events and actions

- Animator overview
- Create object animations
- Scripter overview
- Add events and actions
- Creating videos of the events

Module 10: Autodesk Rendering

This lecture and the accompanying exercise introduces delegates to the numerous and varied Autodesk rendering tools available. It introduces the standard Autodesk Material Library together with the concept of applying materials and lighting, to object items and the model Autodesk Navisworks Essentials to improve visualisation and increase realism, and once applied, how these are then used to produce high quality photorealistic renders of the model

- Autodesk Rendering overview
- Applying materials and lighting to model objects
- Modifying object materials, user libraries
- Rendering options with Ray Trace and Autodesk - Cloud and Render Gallery

Module 11: Simulation and the TimeLiner

This lecture and the associated exercise takes a look at the simulation of construction scheduling using the TimeLiner tool and how it links to external task scheduling software to produce 4D simulations. The addition of animation to the simulations and the export thereof completes this module

- TimeLiner overview
- Linking objects with tasks
- Links to external scheduling files and 4D simulation
- Import and export of data

Module 12: Interference management - Clash Detective

This lecture and associated exercise explores the clash detective tool, arguably Navisworks greatest strength is its ability to identify, inspect and then report on interferences. When linked to the TimeLiner and object animation it has the ability to perform time based object collision detection on moving objects

- Clash detective overview
- Enhanced tests using search and selection sets
- Using Rules, resolving issues with Switchback
- Time based clash tests, reviewing results and reports

Module 13: Material Takeoff - Quantification

This lecture and associated exercise explores the clash detective tool, arguably Navisworks greatest strength is its ability to identify, inspect and then report on interferences. When linked to the TimeLiner and object animation it has the ability to perform time based object collision detection on moving objects

- Clash detective overview
- Enhanced tests using search and selection sets
- Using Rules, resolving issues with Switchback
- Time based clash tests, reviewing results and reports