



BIM Workflow for Infrastructure Design

Course Length: 5 days

The Autodesk® Infrastructure Design Suite software is a comprehensive Building Information Modeling (BIM) for Infrastructure software solution that combines intelligent, model-based tools to help streamline workflows and optimize infrastructure project outcomes. With unique access to the Autodesk portfolio (both the desktop and the cloud), users can gain more accurate, accessible, and actionable insight throughout the project execution and lifecycle of transportation, land, and water projects.

This training course takes you through an example workflow for a road and highway design project using the Autodesk® Infrastructure Design Suite Ultimate software. Students use the Autodesk® InfraWorks™, AutoCAD® Civil3D®, Autodesk® Navisworks® Manage, Autodesk® 360, AutoCAD, and Autodesk® 3ds Max® Design software to complete a road design project from project planning through visual communication and construction documentation.

Upon completion, you can do the following:

- Establish existing conditions using the Autodesk InfraWorks software.
- Sketch multiple layouts of the proposed roadway using the Autodesk InfraWorks software.
- Identify the optimal corridor location and create a proposal to communicate these selected options using the Autodesk InfraWorks software.
- Create Engineered Road Designs in the Autodesk InfraWorks software.
- Exchange Autodesk InfraWorks design information with the AutoCAD Civil3D software.
- Create typical cross-sections of the road using Assemblies in the AutoCAD Civil3D software.
- Create a complex corridor model of the roadway in the AutoCAD Civil3D software using Autodesk InfraWorks design data.
- Create and edit intersection designs.
- Calculate quantities using cut/fill and material quantity calculators.

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- Combine the AutoCAD Civil 3D software, Autodesk® Revit® Structures software, and other data sources in the Autodesk® Navisworks® Manage software.
- Perform clash detection in the Autodesk Navisworks Manage software.
- Create visual presentations to communicate design intent using storyboards, scenarios, and renderings using the Autodesk InfraWorks software and/or the Autodesk 3ds Max Design software.

Prerequisites:

- Fundamental experience with AutoCAD® Civil 3D user interface, navigating the model, alignments, and profiles.
- Fundamental knowledge of Autodesk Navisworks Manage user interface and navigating the model.
- A sound understanding and knowledge of civil engineering terminology.

Intended Audience

Project Managers, EITs, Professional Engineers.

Table of Contents

The Autodesk InfraWorks Interface

- 1.1 Product Overview
- 1.2 Autodesk InfraWorks User Interface
- 1.3 Basic 3D Viewing Tools
- 1.4 3D Navigation Tools
- 1.5 Working With the Autodesk InfraWorks Model

Establishing Existing Conditions in Autodesk InfraWorks

- 2.1 Coordinate Systems
- 2.2 Import Source Data
- 2.3 Stylize Source Data

Sketch Roads in Autodesk InfraWorks

- 3.1 Create Proposals
- 3.2 Sketch Conceptual Road Designs and/or Highlight Existing Roads
- 3.3 Modify Conceptual Road Designs
- 3.4 Add 3D Models
- 3.5 Analyze the Conceptual Design Options

Design Roads in Autodesk InfraWorks

- 4.1 Design Roads that are Constrained by Design Criteria
- 4.2 Modify the Horizontal and Vertical Layouts
- 4.3 Vertical Optimization
- 4.4 Analyze the Preliminary Design
- 4.5 Visualize the Preliminary Design

Taking the Preliminary Design into AutoCAD Civil3D

- 5.1 Connect Geospatial Data to AutoCAD Civil3D Drawings
- 5.2 Import Survey Data
- 5.3 Import Autodesk InfraWorks Design Roads
- 5.4 Edit the Design Road Alignment in AutoCAD Civil3D
- 5.5 Edit the Autodesk InfraWorks Profile in AutoCAD Civil3D

Advanced Corridor Design

- 6.1 Create Road and Highway Assemblies
- 6.2 About Corridors
- 6.3 Creating Road Intersections
- 6.4 Modify Corridors

Quantity TakeOff

- 7.1 Create the Finished Ground Surface
- 7.2 Sample Lines
- 7.3 Section Volume Calculations

Design Validation in Autodesk NavisWorks Manage

- 8.1 Product Overview
- 8.2 Workspace Overview
- 8.3 Opening and Appending Files in Autodesk NavisWorks Manage
- 8.4 Clash Detective

Visual Communication in Autodesk InfraWorks

- 9.1 Transfer the Detailed Design to Autodesk InfraWorks
- 9.2 Rendering in Autodesk InfraWorks
- 9.3 Create Videos from Storyboards
- 9.4 Create Scenarios

Construction Documentation

- 10.1 Plan Production Setup
- 10.2 Create View Frames
- 10.3 Create Plan/Profile Sheets
- 10.4 Create Section View Sheets

Time: 10am-4pm

DURATION: 5 days

Proposed Date: 22nd – 26th April, 2019

Venue: National Engineering Center Abuja Hq. behind the National Mosque

on.

Training Fee:

S/ No	Training Description	Per Head Cost
A	Design & Detailing for Highways (Civil3D + Infraworks)	100,000.00

Conclusion

We are known for providing high standard in workshop and our course instructors are Autodesk Certified.

We shall be grateful if granted the opportunity to be of service to you.

Yours truly,

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