Autodesk® Infrastructure Design Suite BIM Workflow for Roads and Highways

Course Length: 2 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® Civil 3D®, Autodesk® Navisworks® Manage, Autodesk® 360, AutoCADWS, 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 proposals to communicate the selected option using the Autodesk InfraWorks software.
- Create Engineered Road Designs in the Autodesk InfraWorks software.
- Exchange Autodesk InfraWorks design information with the AutoCAD Civil 3D software.
- Create typical cross-sections of the road using Assemblies in the AutoCAD Civil 3D software.
- Create a complex corridor model of the roadway in the AutoCAD Civil 3D software using Autodesk InfraWorks design data.
- Create and edit intersection designs.
- Calculate quantities using cut/fill and material quantity calculators.
- Combine the AutoCAD Civil 3D software, Autodesk® Revit® Structure 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.
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### Chapter 1: 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

### Chapter 2: Establishing Existing Conditions in Autodesk InfraWorks
- 2.1 Coordinate Systems
- 2.2 Import Source Data
- 2.3 Stylize Source Data

### Chapter 3: 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
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### Chapter 4: Design Roads in Autodesk InfraWorks
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- 4.2 Modify the Horizontal and Vertical Layouts
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Course description shown for Autodesk Infrastructure Design Suite 2014. Topics, curriculum, and/or prerequisites may change depending on software version.
Chapter 5: Taking the Preliminary Design into AutoCAD Civil 3D
- 5.1 Connect Geospatial Data to AutoCAD Civil 3D Drawings
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- 7.3 Section Volume Calculations

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- 8.1 Product Overview
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- 8.3 Opening and Appending Files in Autodesk NavisWorks Manage
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- 9.1 Transfer the Detailed Design to Autodesk InfraWorks
- 9.2 Rendering in Autodesk InfraWorks
- 9.3 Create Videos from Storyboards
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Chapter 10: Construction Documentation

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

Appendix A: Autodesk Infrastructure Design Suite: Roads and Highways Workflow Certification Exam Objectives
Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company’s Training Coordinator (trainingcoordinator@rand.com)
- For all Training orders, cancellation notices must be submitted to trainingcoordinator@rand.com. Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

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