

Technical Education Services

Autodesk InfraWorks Fundamentals



Course Length: 3 days

The Autodesk® InfraWorks™ Fundamentals training course is designed for civil engineers, planners, architects, and others using the Autodesk® InfraWorks™, Autodesk® InfraWorks™360, Autodesk® Infrastructure Design Suite Premium, Autodesk® Infrastructure Design Suite Ultimate, or Autodesk® Building Design Suite Ultimate software.

The training course provides you with a fundamental knowledge of how to take advantage of the accelerated design process that uses data-rich 3D models with high-end visualizations. This enables you to create, evaluate, and better communicate 3D site plan proposals for faster approvals. The last three chapters (the last half day) of this training guide cover add-on modules that are only available to Autodesk InfraWorks 360 users.

The major topics covered in the training guide are:

- Navigate the Autodesk InfraWorks user interface
- Create new models from scratch
- Incorporate existing data sources into the model
- Rapidly generate early design concepts for new roads
- Add essential design elements to the model
- Display features according to data behind the model
- Create new styles according to project requirements
- Analyze a model to ensure that project constraints are met
- Collaborate with other project team members
- Create high-impact visualizations of the project to communicate the design to stakeholders
- Generate videos by using storyboards
- Use the Roadway Design for InfraWorks 360 module
- Use the Bridge Design for InfraWorks 360 Module to add bridges to a design roadway
- Use the Drainage Design for InfraWorks 360 Module to run a watershed analysis

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Technical Education Services

Table of Contents

Autodesk Infraworks Fundamentals

Chapter 1: Navigating the User Interface

- Locate basic features and commands in the Autodesk InfraWorks and Autodesk Infraworks 360 software interface.
- Navigate a model using the mouse, ViewCube, and bookmarks.
- Create new proposals in a model to provide additional design options.

Chapter 2: Connecting to Data Sources

- Set the model coordinate system, units, and extents.
- Connect to select data source types to display the existing conditions in a model.
- Configure the connected GIS data for proper display.

Chapter 3: Stylize Data Sources

- Display a data source according to specific data in the database that is connected to the feature.
- Change the style of selected features to override any style rules being used.
- Create/edit styles in catalogs.
- Share style catalogs with other users.

Technical Education Services

Chapter 4: Create Model Elements

- Review the basic commands that are available to make changes to model elements.
- Create conceptual designs of roads, bridges, and tunnels.
- Create coverages and land areas to shape and stylize the terrain surface.
- Add pipelines and pipeline connectors to a model to indicate where utilities are to be located.
- Create railways in a model to indicate the locations of the mass transit lines or freight lines.
- Create water features in a model to represent lakes, ponds, rivers, or streams.

Chapter 5: Add Model Details

- Create buildings in a model using the draw tools.
- Add predefined 3D buildings to a model.
- Create city furniture to add bike racks and other 3D models to a model.
- Add landscaping details to a model using trees and other vegetation.
- Create barriers to add fences and traffic control to a model.
- Draw attention to specific points in a model using points of interest markers.

Chapter 6: Analyzing The Model

- Analyze features in a model using underlying data using themes.
- Select features that are in the line of sight from a specified view point and angle.
- Measure a model to determine the length, area, or volume of specific features.
- Analyze a model to determine whether the project receives the appropriate amount of sunlight.

Technical Education Services

Chapter 7: Collaborating With Others

- Share design elements between Autodesk InfraWorks and AutoCAD Civil 3D.
- Import an Autodesk Revit model.
- Create a scenario that includes storyboards to share on the internet.

Chapter 8: Communicate The Design To Stakeholders

- Present a simple image of the model using a snapshot.
- Render an image to display a more realistic view of the model.
- Present a slide-show of the design to stakeholders by creating storyboards.

Chapter 9: Introduction to the Roadway Design for InfraWorks 360 Module

- Design an engineered road with precise design parameters (such as design speed, tangent length, and specific curve radii).
- Modify the horizontal layout of a design road.
- Modify the vertical layout of a design road.
- Modify how two design roads intersect using the Intersection asset card.
- Add traffic movement to your project by running a traffic simulation.
- Identify suitable locations for infrastructure projects using a gradient map.

Chapter 10: Introduction to the Bridge Design for InfraWorks 360 Module

- Describe many of the bridge components that are inserted when a bridge is added to a design road.
- Add bridges to a design road over waterways, railways, or other roadways.
- Edit bridges using gizmos and bridge asset cards.
- Analyze the Bridge Line Girders for Structural Strength

Technical Education Services

Chapter 11: Introduction to the Drainage Design for InfraWorks 360 Module

- Determine the extents of a watershed area.
- Create and Modify Culverts.
- Design pavement drainage along a design road.

Appendix A Example of a GIS Data Source

Appendix B Certified BIM Specialist: Road and Highway Solution Certification Exam Objectives

Technical Education Services

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