# KAD Solutions

## Navisworks Essentials

**3 Day Training Class $1,025.00 - Topics include:**

- Describe the main features and functionality of the Autodesk Navisworks software.
- Open and append 3D files of different formats and save in the Autodesk Navisworks format.
- Create links to object properties files and scheduling files in external databases.
- Perform visual project model reviews using the built-in review and reporting tools.
- Create construction simulations of a project model to check the validity of construction schedules.
- Use Animator and Scripter to create interactive animations for presentations and demonstrations.
- Obtain takeoff data from source models to create material estimates, measure areas, and count components.
- Perform interference detection tests between 3D files of different disciplines to check integrity of the design.
- Add true-to-life materials, and lighting and backgrounds to project models, to create photorealistic output.

The Autodesk Navisworks Essentials course instructs students in best approaches to combine 3D geometry from cross disciplines into one scene to enable effective model reviews. Through a hands-on, practice-intensive curriculum, students acquire the knowledge needed to review and markup the model, use TimeLiner, Animator, Scripter, and Presenter, as well as the Clash Detective tools within Autodesk Navisworks.

Using the functionality of the Autodesk Navisworks Review, Simulate, and Manage features, students learn how to open, review, and run object-interference checks on 3D models. Students also learn how to link to task-scheduling files and create 4D construction simulations. Using the Animator and Scripter tools, students create interactive animations. In addition, students learn how the Presenter tools can help them create photorealistic images and animations.

## Outline:

### Chapter 1: Getting Started
- Product Overview
- Workspace Overview
- Opening and Appending Files in Navisworks
- Saving, Merging, and Refreshing Files

### Chapter 2 – 3D Model Review
- Navigation
- The Autodesk Navisworks Engine
- Selection Tree and Selecting Objects
- Hiding Objects and Overriding Materials
- Object Properties
- Measuring and Moving Objects
- Selection and Search Sets
- Viewpoints
- Comments and Redlining
- Animations
- Sectioning
- Links
- Comparing Models
- Switchback
- Autodesk Navisworks Real-Ti

### Chapter 3 - TimeLiner
- TimeLiner Overview
- Creating Tasks

### Chapter 5: Scripter
- Scripter Overview
- Creating and Managing Scripts
- Events
- Creating and Configuring Actions

### Chapter 6: Presenter Basics
- Presenter Overview
- Apply Materials to Model Items
- Adding Lighting Effects to a Scene
- Adding Background Effects
- Rendering Effects
- Ground Planes
- Outputting Rendered Images
- Outputting Animations (Videos)

### Chapter 7: Presenter Advanced Features
- Editing and Managing Materials
- Advanced Material Editing
- Individual Light Effects
- Light Scattering
- Image-Based Lighting
- Environment Backgrounds and Reflections
- Creating Custom Rendering Effects
- Custom Environments
- RPC (Rich Photorealistic Content)

- Gantt View
- Import Tasks from External Project File
- TimeLiner Simulation
- Configuring and Defining a Simulation
- Simulation Export

**Chapter 4: Animator**
- Animator Overview
- Creating a Basic Animation
- Cameras and Camera Viewpoints
- Manipulate Geometry Objects in an Animation Set
- Section Plane Sets
- Controlling Animation Scene Playback

**Chapter 8: Clash Detective**
- Clash Detective Overview
- Setting Clash Rules
- Clash Results
- Clash Test Reporting
- Audit Checks
- Create and Save Batches of Clash Tests
- Export and Import Clash Tests
- Custom Clash Tests
- Laser Scan Data Clashing
- Holding and Releasing Objects
- SwitchBack in Clash Detective
- Time-Based Clashing
- 

**Appendix A: Data Tools**
- Lesson: Database Support (Data Tools)

**Prerequisites:**

Before using this training guide, students should have working knowledge of 3D design and task-scheduling software. This training guide is designed for new and experienced Autodesk Navisworks users who need to become familiar with the main tools within the software.