

# Autodesk NavisWorks 2009 Essentials

## Courseware Description

In this courseware, using hands-on exercises that demonstrate the functionality of the Autodesk® NavisWorks® 2009 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 to create photorealistic images and animations. This courseware provides students with the skills and knowledge to use NavisWorks 2009 effectively.

<b>Suggested Course Duration:</b>	3 days
<b>Pages:</b>	328
<b>Trial CD:</b>	Yes
<b>Onscreen Exercises Included?</b>	Yes

## Objectives

The primary objective of this courseware is to teach students how to combine 3D geometry from cross disciplines into one scene to enable effective model reviews. Students also learn to use the Clash Detective, TimeLiner, Animator, Scripter, and Presenter tools competently within NavisWorks 2009.

After completing this course, students will be able to:

- Describe the main features and functionality of the NavisWorks 2009 products.
- Open and append 3D files of different formats and save them in a NavisWorks format.
- Create links to external scheduling files and object properties in external database files.
- 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.
- Add true-to-life materials, lighting, and backgrounds to project models to create photorealistic output.
- Perform interference detection tests between 3D files of different disciplines to check the integrity of the design.

## Who Should Attend

This courseware is designed for new and experienced NavisWorks users who need to become familiar with all the main tools within NavisWorks 2009.

## Prerequisites

Before using this courseware, students should have working knowledge of 3D design and task-scheduling software.

# Course Outline

## Day 1

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### Getting Started with NavisWorks 2009

- Workspace Overview
- Opening and Appending Files in NavisWorks 2009
- Saving, Merging, and Refreshing Files in NavisWorks 2009
- Database Support (Data Tools)

### Review

- Navigation and the NavisWorks 2009 Engine
- Selection Tree and Selecting Objects
- Hiding Objects and Overriding Materials
- Object Properties
- Measuring and Moving Objects
- Selection and Search Sets
- Viewpoints and Adding Comments and Redlining
- Animations, Sectioning, and Hyperlinks
- Comparing Models and SwitchBack
- NavisWorks Real-Time Rendering

## Day 2

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### TimeLiner

- TimeLiner Overview
- Creating Tasks and Importing Tasks from an External Project File
- TimeLiner Simulation
- Configuring and Defining a Simulation
- Simulation Export
- Time-based Clashing and the Clash Detective Report

### Animator

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

### Scripter

- Scripter Overview
- Creating and Managing Scripts
- Events and Creating and Configuring Actions

## Day 3

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### Presenter Basics

- Presenter Overview
- Applying Materials to Model Items
- Adding Lighting Effects to a Scene
- Adding Background Effects
- Rendering Effects
- Outputting Rendered Images and Animations

### Advanced Presenter Features

- Editing and Managing Materials
- Advanced Material Editing
- Ground Planes
- Individual Light Effects and Image-based Lighting
- Environment Backgrounds and Reflections
- Custom Environments
- Light Scattering
- Rich Photorealistic Content (RPC)

### Clash Detective

- Clash Detective Overview
- Selecting Items to Be Clashed
- Clash-Test Settings and Rules
- Clash Results and Reporting
- 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 the Clash Detective and Time-based Clashing

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**Note:** The suggested course duration is a guideline. Course topics and duration may be modified by the instructor based upon the knowledge and skill level of the course participants.