

# TABLE OF CONTENTS

<b>Dedication</b>	iii
<b>Foreword</b>	iv
<b>Acknowledgements</b>	v
<b>About the Author</b>	vi
<b>Accessing Tutorial Files</b>	vii
<b>Free Teaching Resources for Faculty</b>	viii
<b>Accessing the Videos of the Tutorials in this Textbook</b>	viii
<b>Preface</b>	ix
<b>Table of Contents</b>	xi
<b>Chapter 1 - Introduction to Autodesk Navisworks</b>	
Autodesk Navisworks	1-2
Autodesk Navisworks Products	1-2
Autodesk Navisworks Simulate	1-2
Autodesk Navisworks Manage	1-3
Autodesk Navisworks Freedom	1-3
Autodesk Navisworks Interface	1-3
Autodesk Navisworks Interface Components	1-4
Autodesk Navisworks Workspaces	1-7
Safe Mode	1-8
Navisworks Minimal	1-8
Navisworks Standard	1-8
Navisworks Extended	1-8
Creating a User-Defined Workspace	1-8
Native File Support	1-9
Autodesk Navisworks NWC File Export Utility	1-11
Autodesk Navisworks File formats	1-11
NWC Files	1-11
NWF Files	1-12
NWD Files	1-12
Creating Federated Models in Autodesk Navisworks	1-12
Opening Files	1-12
Opening from Web Server	1-14
Appending Files	1-14
Merging Files	1-15
Modifying Units, Size, and Location of a File	1-16
Saving your Work	1-17
Save Tool	1-17
Save As Tool	1-18
Publish Tool	1-18
Auto-Save	1-21
Deleting Files from the Scene	1-21
Navigating through the Model	1-22

Changing the Render Style Options	1-22
Lighting Flyout	1-23
Render Mode Flyout	1-23
Surfaces	1-24
Lines	1-24
Points	1-24
Snap Points	1-24
Text	1-24
ViewCube	1-25
Hands-On Tutorial	1-26
Skill Evaluation	1-39
Class Test Questions	1-40

## Chapter 2 - Selecting and Manipulating Objects in the Scene

Object Selection	2-2
Selection Resolution	2-2
Select Flyout	2-4
Select Same Flyout	2-5
Selection Tree	2-6
Controlling the Visibility of the Items	2-6
Hide	2-6
Require	2-7
Hide Unselected	2-7
Unhide All	2-8
Unrequire All	2-8
Item Tools	2-8
Transform Ribbon Panel	2-8
Appearance Ribbon Panel	2-10
Selection Sets and Search Sets	2-11
Selection Sets	2-12
Search Sets	2-12
Viewing Item Properties	2-15
Dynamically Displaying Item Properties on the Model	2-15
Selection Inspector	2-17
Appearance Profiler	2-18
Hands-On Tutorial	2-21
Skill Evaluation	2-49
Class Test Questions	2-50

## Chapter 3 - Viewpoints, Animations, and Measurements

Viewpoints	3-2
Configuring Global Viewpoint Defaults before Creating Viewpoints	3-2
Creating Viewpoints	3-3
Editing a Viewpoint	3-4
Updating a Viewpoint	3-7
Realtime Navigation using the Walk Tool	3-8
Walk Tool	3-8

Adding Realism to the Navigation	3-8
Third Person	3-8
Gravity	3-11
Collision	3-11
Crouching	3-11
Creating Walkthrough Animations	3-12
Recording the Walk	3-12
Creating Viewpoint Animation	3-13
Playing the Animations	3-14
Exporting Animations	3-14
Exporting and Importing Viewpoints	3-15
Object Snapping	3-16
Measuring Objects	3-17
Point to Point Distance Measurements	3-17
Clearing Measurements	3-18
Point to Multiple Points Measurements	3-19
Point Line Measurements	3-20
Accumulated Distance Measurements	3-20
Angle Measurements	3-21
Area Measurements	3-21
Measuring Shortest Distance Between Two Objects	3-22
Transforming Objects	3-22
Converting Measurements to Redline	3-23
Locking Measurements	3-24
Hands-On Tutorial	3-25
Skill Evaluation	3-49
Class Test Questions	3-50

## **Chapter 4 - Reviewing and Sectioning the Design**

Design Review in Autodesk Navisworks	4-2
Redline Markups	4-2
Comments	4-8
Tags	4-13
Sectioning the Model	4-14
Sectioning a Model Using a Single Section Plane	4-15
Sectioning a Model Using Multiple Section Planes	4-17
Sectioning a Model using Linked Section Planes	4-18
Sectioning a Model using a Section Box	4-19
Saving a Sectioned View	4-21
Hands-On Tutorial	4-22
Skill Evaluation	4-41
Class Test Questions	4-42

## **Chapter 5 - Autodesk Navisworks Productivity Tools**

Controlling the visibility of Grids and Levels in an Autodesk Revit File	5-2
Show Grid	5-2

Mode Flyout	5-2
Active Grid List	5-3
Display Level List	5-3
Changing the Grids and Levels Settings	5-3
Linking Files and URLs to the Items in the Model	5-4
Procedure for Adding Links to the Items in the Scene	5-5
Turning On the Visibility of the Links in the Scene	5-7
Controlling the Global Display of Links	5-7
Editing the Links Assigned to the Items	5-8
Following the Links Assigned to the Items	5-9
Linking External Databases to The Autodesk Navisworks Items	5-9
Getting a 64-BIT Computer Ready to Use DataTools	5-10
Linking Database Properties	5-10
SQL Query Strings	5-13
Splitting the Autodesk Navisworks View	5-14
Working with the Full Screen Display	5-16
Working with the Head-Up Display	5-16
Hands-On Tutorial	5-17
Skill Evaluation	5-33
Class Test Questions	5-34

## Chapter 6 - Working with the Clash Detective Module

The Clash Detective Module	6-2
Tests Panel	6-2
Clash Toolbar	6-4
Rules Tab	6-5
Select Tab	6-5
Results Tab	6-7
Report Tab	6-13
Procedures for Performing Various Clash Test Related Activities	6-15
Procedure for Performing Hard Clash Tests	6-15
Procedure for Interrogating the Clash Results	6-16
Procedure for Writing the Clash Report	6-17
Procedure for Resolving the Clashes Using the SwitchBack Functionality	6-17
Procedure for Exporting and Importing Clash Tests Based on Search Sets	6-18
Hands-On Tutorial	6-20
Skill Evaluation	6-53
Class Test Questions	6-54

<b>Index</b>	<b>I-1</b>
<b>Answers to Skill Evaluation</b>	<b>A-1</b>