Table of Contents xi

TABLE OF CONTENTS

| Dedication | iii |
|---|--------------|
| Foreword | iv |
| Acknowledgements | V |
| About the Author | vi |
| Accessing Tutorial Files | vii |
| Free Teaching Resources for Faculty | viii |
| Accessing the Videos of the Tutorials in this Textbook | viii |
| Preface | ix |
| Table of Contents | xi |
| Chapter 1 - Introduction to Autodesk Navisworks | |
| 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 |
| Autodesk Navisworks Freedom Autodesk Navisworks Interface Autodesk Navisworks Interface Components Autodesk Navisworks Workspaces Safe Mode Navisworks Minimal Navisworks Standard Navisworks Extended Creating a User-Defined Workspace Native File Support Autodesk Navisworks File formats NWC Files NWC Files | 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 |
| TWITTIES | 1-12 |
| NWD Files Creating Federated Models in Autodesk Newigwerks | 1-12 1-12 |
| Creating Federated Models in Autodesk Navisworks Opening Files | 1-12 |
| Opening Fries 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 |
| Selection Tree Controlling the Visibility of the Items Hide Require Hide Unselected Unhide All Unrequire All Item Tools Transform Ribbon Panel Appearance Ribbon Panel Selection Sets and Search Sets Search Sets | 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 | |
| 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 Measurement | ts |
| 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 |

Table of Contents

| 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 |
| 1100 | |
| Area Measurements Area Measurements Measuring Shortest Distance Between Two Objects Transforming Objects Converting Measurements to Redline Locking Measurements Hands-On Tutorial Skill Evaluation Class Test Questions Chanter 4 - Reviewing and Sectioning the Design | |
| 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 |
| Class Test Questions | 7-74 |
| Chapter 5 - Autodesk Navisworks Productivity Tools | |
| Controlling the visibility of Grids and Levels in an Autodesk Revit File | 5-2 |
| Show Grid | 5-2 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 |
| In in the | |
| Chapter 6 - Working with the Clash Detective Module | |
| Chapter 6 - Working with the Clash Detective Module The Clash Detective Module Tests Panel Clash Toolbar Rules Tab Select Tab Results Tab Report Tab Procedures for Performing Various Clash Test Related Activities | 6-2 |
| Tests Panel | 6-2 |
| Clock Teelbox | |
| Clash Toolbar | 6-4 6-5 |
| Rules Tab | |
| Select Tab | 6-5 |
| Results Tab | 6-7 |
| Report Tab | 6-13 |
| | 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 |
| Index | I-1 |
| Answers to Skill Evaluation | A-1 |
| | |