

Autodesk®

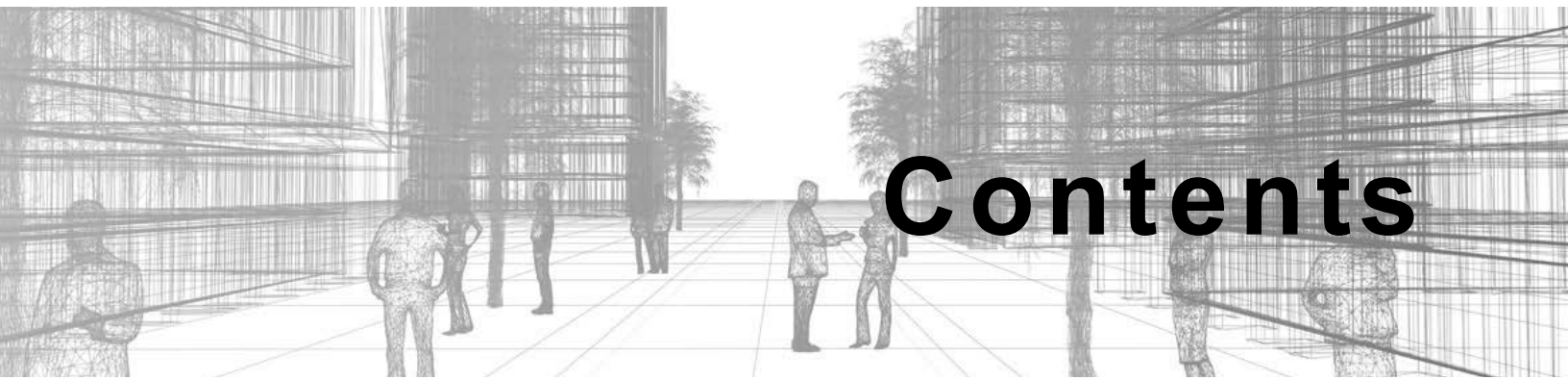
Revit® 2023 Architecture Fundamentals



Better Textbooks. Lower Prices.
www.SDCpublications.com

Visit the following websites to learn more about this book:





Contents

Preface	xi
In This Guide	xiii
Practice Files	xv
Revit Tools and Project Setup	
Chapter 1: Introduction to Revit.....	1-1
1.1 BIM and Revit	1-2
Workflow and BIM.....	1-3
Revit Terms.....	1-4
Revit and Construction Documents.....	1-5
1.2 Overview of the Interface	1-7
1.3 Opening and Saving Projects	1-27
Opening Projects.....	1-28
Saving Projects	1-29
1.4 Viewing Commands	1-31
Zooming and Panning	1-31
Viewing in 3D	1-33
ViewCube.....	1-37
Visual Styles.....	1-39
Practice 1a Open and Review a Project.....	1-40
Chapter Review Questions.....	1-49
Command Summary	1-51
Chapter 2: Starting a Project	2-1
2.1 Selecting a Project Template	2-2
2.2 Linking and Importing Files	2-4
Linking and Importing CAD Files.....	2-4
Linking and Importing Raster Image Files.....	2-8
Linking and Importing PDF Files	2-10

2.3 Linking in Revit Models	2-12
2.4 Modifying Imported/Linked Files	2-14
Managing Links	2-17
Modifying the Visibility of Imported/Linked Files	2-19
Practice 2a Start a Project and Link Files	2-22
2.5 Setting Up Levels	2-26
Modifying Levels	2-28
Creating Plan Views	2-30
Practice 2b Set Up Levels.....	2-33
2.6 Creating Grids	2-38
Modifying Grid Lines	2-41
Practice 2c Add Grids	2-44
Chapter Review Questions.....	2-47
Command Summary	2-49
Chapter 3: Working with Views	3-1
3.1 Modify How the Project Browser Displays	3-2
3.2 Duplicating Views	3-5
3.3 Modify How the View Displays.....	3-8
View Control Bar	3-8
View Properties	3-9
Hiding and Overriding Graphics	3-12
Visibility/Graphic Overrides	3-15
View Templates.....	3-17
Practice 3a Duplicate Views and Set the View Display.....	3-19
3.4 Adding Callout Views	3-22
Working with Crop Regions.....	3-25
Plan Regions.....	3-26
Practice 3b Add Callout Views.....	3-29
3.5 Creating Elevations and Sections	3-34
Elevations.....	3-35
Sections	3-36
Modifying Elevations and Sections	3-37
3D Section Views	3-41
Practice 3c Create Elevations and Sections.....	3-44
Chapter Review Questions.....	3-52
Command Summary	3-55

Chapter 4: Revit Families	4-1
4.1 About Revit Families	4-2
The Different Kinds of Families	4-3
Working with Component Families.....	4-6
Loading Components	4-7
Placing Components	4-9
4.2 Modifying Components	4-12
4.3 Creating Additional Family Types in a Project	4-14
Families with Connectors	4-15
Practice 4a Load Components	4-16
Chapter Review Questions	4-21
Command Summary	4-23
Chapter 5: Basic Sketching and Modify Tools	5-1
5.1 Adding General Building Elements	5-2
Draw Tools	5-3
Drawing Aids	5-6
Reference Planes.....	5-9
Editing Building Elements	5-12
Selecting Multiple Elements	5-15
Measuring Tool	5-17
Filtering Selection of Multiple Elements	5-18
Practice 5a Sketch and Edit Elements	5-20
5.2 Working with Basic Modify Tools	5-25
Moving and Copying Elements	5-25
Rotating Elements.....	5-27
Mirroring Elements	5-29
Creating Linear and Radial Arrays	5-30
Practice 5b Work with Basic Modify Tools	5-33
5.3 Working with Additional Modify Tools	5-41
Aligning Elements	5-41
Splitting Linear Elements	5-43
Trimming and Extending	5-44
Offsetting Elements.....	5-45
Practice 5c Work with Additional Modify Tools	5-47
Chapter Review Questions	5-51
Command Summary	5-55

Design Development

Chapter 6: Adding Columns	6-1
6.1 Adding Columns	6-2
Modifying Columns.....	6-5
6.2 Adding Isolated Footings	6-7
Practice 6a Add Columns	6-9
Chapter Review Questions	6-15
Command Summary	6-16
Chapter 7: Modeling Walls	7-1
7.1 Modeling Walls	7-2
7.2 Modifying Walls	7-10
Wall Joins.....	7-13
Editing Wall Profiles	7-15
Wall Openings.....	7-17
7.3 Adding Wall Footings	7-19
Wall Profiles and Footings	7-21
Practice 7a Model the Exterior Shell	7-24
Practice 7b Add Interior Walls	7-28
Practice 7c Model Additional Walls	7-42
7.4 Adding Room Elements	7-50
Practice 7d Add Room Elements	7-54
Chapter Review Questions	7-63
Command Summary	7-66
Chapter 8: Working with Doors and Windows	8-1
8.1 About Doors and Windows	8-2
8.2 Creating Additional Door and Window Sizes	8-8
Practice 8a Adding Doors and Windows	8-9
Chapter Review Questions	8-20
Command Summary	8-22
Chapter 9: Working with Curtain Walls	9-1
9.1 Creating Curtain Walls	9-2
9.2 Adding Curtain Wall Grids	9-6
Modifying Curtain Wall Grids.....	9-7
Practice 9a Work with Curtain Walls	9-11

9.3 Working with Curtain Wall Panels	9-17
Creating a Curtain Wall Panel.....	9-19
9.4 Attaching Mullions to Curtain Wall Grids	9-21
Modifying Mullions.....	9-22
Practice 9b Add Mullions and Panels to Curtain Walls	9-24
Chapter Review Questions.....	9-33
Command Summary	9-35
Chapter 10: Modeling Floors	10-1
10.1 Modeling Floors	10-2
Modifying Floors.....	10-5
Joining Geometry	10-6
Practice 10a Model Floors	10-8
10.2 Creating Shaft Openings	10-16
10.3 Creating Sloped Floors.....	10-17
Creating Multiple Slopes for Drainage	10-18
Practice 10b Create Shaft Openings and Sloped Floors	10-21
Chapter Review Questions.....	10-26
Command Summary	10-27
Chapter 11: Modeling Ceilings	11-1
11.1 Modeling Ceilings	11-2
Sketching Ceilings.....	11-4
Modifying Ceiling Grids	11-5
11.2 Adding Ceiling Fixtures.....	11-7
Practice 11a Model Ceilings and Add Ceiling Fixtures.....	11-10
11.3 Creating Ceiling Soffits	11-16
Practice 11b Create Ceiling Soffits.....	11-18
Chapter Review Questions.....	11-23
Command Summary	11-25
Chapter 12: Modeling Roofs	12-1
12.1 Modeling Roofs	12-2
Modify the Footprint of a Roof.....	12-6
Practice 12a Create Roofs by Footprint.....	12-8
12.2 Creating Roofs by Extrusion.....	12-16
Modify Extruded Roof.....	12-21
Joining Roofs	12-22
Attaching Walls to Roofs	12-23

Practice 12b Create Roofs by Extrusion	12-25
Chapter Review Questions	12-28
Command Summary	12-30
Chapter 13: Modeling Stairs, Railings, and Ramps	13-1
13.1 Creating Component Stairs	13-2
Creating Runs	13-3
Creating Other Types of Runs	13-6
Creating Landings	13-9
Adding Supports	13-10
Practice 13a Create Component Stairs	13-11
13.2 Modifying Component Stairs	13-21
Multistory Stairs	13-24
Practice 13b Modify Component Stairs	13-26
13.3 Working with Railings	13-34
Modifying Railings	13-36
Practice 13c Work with Railings	13-38
13.4 Creating Ramps	13-47
Practice 13d Create Ramps	13-50
Chapter Review Questions	13-53
Command Summary	13-55
Construction Documentation	
Chapter 14: Creating Construction Documents	14-1
14.1 Setting Up Sheets	14-2
Sheet (Title Block) Properties	14-4
14.2 Placing and Modifying Views on Sheets	14-6
14.3 Duplicating Sheets and Swapping Views	14-8
14.4 Modifying Views and View Titles	14-11
Practice 14a Set Up Sheets	14-15
14.5 Printing Sheets	14-22
Printing Options	14-22
Export Views and Sheets to PDF	14-28
Chapter Review Questions	14-29
Command Summary	14-32

Chapter 15: Working with Annotations	15-1
15.1 Working with Dimensions	15-2
Modifying Dimensions	15-5
Setting Constraints	15-10
Practice 15a Work with Dimensions	15-16
15.2 Working with Text	15-23
Editing Text	15-26
Spell Checking	15-30
Creating Text Types	15-31
Practice 15b Work with Text.....	15-33
15.3 Adding Detail Lines and Symbols	15-39
Using Symbols	15-40
Practice 15c Add Detail Lines and Symbols.....	15-41
15.4 Creating Legends.....	15-45
Practice 15d Create Legends	15-48
Chapter Review Questions.....	15-51
Command Summary	15-53
Chapter 16: Adding Tags and Schedules.....	16-1
16.1 Adding Tags	16-2
Tagging in 3D Views	16-12
Practice 16a Add Tags	16-14
16.2 Working with Schedules.....	16-20
Schedule View Properties	16-29
Filtering Elements from Schedules	16-31
Modifying Schedules	16-33
Modifying a Schedule on a Sheet	16-35
Split a Schedule Across Multiple Sheets.....	16-35
Filter by Sheet	16-37
Practice 16b Work with Schedules	16-39
Chapter Review Questions.....	16-47
Command Summary	16-48
Chapter 17: Creating Details.....	17-1
17.1 Setting Up Detail Views	17-2
Referencing a Drafting View	17-5
Saving Drafting Views	17-6
17.2 Adding Detail Components	17-9
Detail Components.....	17-9
Repeating Details.....	17-11

17.3 Annotating Details	17-13
Creating Filled Regions	17-13
Adding Detail Tags	17-16
Practice 17a Create a Detail Based on a Section Callout	17-17
Practice 17b Create a Detail in a Drafting View	17-26
Chapter Review Questions	17-30
Command Summary	17-32
Appendix A: Additional Tools for Design Development	A-1
A.1 Selection Sets	A-2
A.2 Purging Unused Elements	A-5
A.3 Editing Wall Joins	A-6
A.4 Wall Sweeps and Reveals	A-8
A.5 Creating Curtain Wall Types with Automatic Grids	A-11
A.6 Creating Fascias, Soffits, and Gutters	A-14
Fascias	A-14
Soffits	A-15
Gutters	A-16
A.7 Creating Dormers	A-17
A.8 Enhancing Views	A-20
Splitting Faces	A-21
Applying Materials	A-22
Editing Plan and Section Profiles	A-25
A.9 Introduction to Revit Worksharing	A-27
Worksharing Definitions	A-28
Saving a Workshared Project	A-32
Command Summary	A-34
Appendix B: Additional Tools for Construction Documents	B-1
B.1 Working with Guide Grids on Sheets	B-2
B.2 Revision Tracking	B-4
Issuing Revisions	B-9
B.3 Path of Travel and Route Analysis	B-10
B.4 Annotating Dependent Views	B-13
Annotating Views	B-14
B.5 Creating Building Component Schedules	B-17
B.6 Importing and Exporting Schedules	B-20
B.7 Creating a Repeating Detail	B-22

B.8 Keynoting and Keynote Legends	B-24
Keynote Legends	B-27
Command Summary	B-29
Index	Index-1