

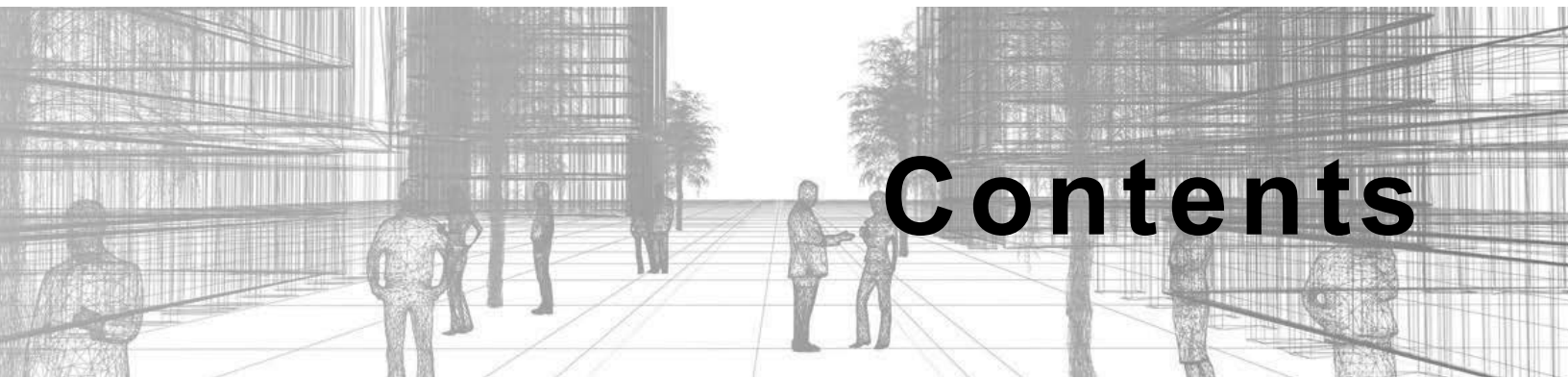
Autodesk®

Revit® 2016 Architecture Fundamentals



Visit the following websites to learn more about this book:





Contents

Preface	ix
In this Guide	xi
Practice Files	xv
Customizing the Interface	xvii
 Introduction to BIM and Autodesk Revit	
Chapter 1: Introduction to BIM and Autodesk Revit	1-1
1.1 BIM and Autodesk Revit	1-2
Workflow and BIM	1-3
Revit Terms	1-4
Revit and Construction Documents	1-5
1.2 Overview of the Interface	1-6
1.3 Starting Projects	1-18
Opening Projects	1-19
Starting New Projects	1-21
Saving Projects	1-22
1.4 Viewing Commands	1-24
Zooming and Panning	1-24
Viewing in 3D	1-26
Visual Styles	1-30
Practice 1a Open and Review a Project	1-32
Chapter Review Questions	1-38
Command Summary	1-40

Chapter 2: Basic Drawing and Modify Tools.....	2-1
2.1 Using General Drawing Tools	2-2
Draw Tools	2-2
Drawing Aids	2-5
Reference Planes.....	2-8
2.2 Editing Elements	2-9
Selecting Multiple Elements	2-12
Filtering Selection Sets	2-14
Practice 2a Draw and Edit Elements	2-16
2.3 Working with Basic Modify Tools	2-21
Moving and Copying Elements	2-21
Rotating Elements.....	2-23
Mirroring Elements	2-25
Creating Linear and Radial Arrays	2-26
Practice 2b Work with Basic Modify Tools	2-29
2.4 Working with Additional Modify Tools	2-37
Aligning Elements	2-37
Splitting Linear Elements	2-39
Trimming and Extending	2-40
Offsetting Elements.....	2-41
Practice 2c Work with Additional Modify Tools	2-43
Chapter Review Questions.....	2-47
Command Summary	2-51
Chapter 3: Setting Up Levels and Grids	3-1
3.1 Setting Up Levels	3-2
Modifying Levels	3-4
Creating Plan Views.....	3-6
Practice 3a Set Up Levels.....	3-7
3.2 Creating Structural Grids	3-10
Modifying Grid Lines	3-11
3.3 Adding Columns	3-12
Modifying Columns.....	3-15
3.4 Linking and Importing CAD Files	3-16
Practice 3b Add Structural Grids and Columns	3-20
Chapter Review Questions.....	3-25
Command Summary	3-27

Design Development Phase

Chapter 4: Modeling Walls	4-1
4.1 Modeling Walls	4-2
4.2 Modifying Walls	4-5
Wall Joins.....	4-6
Wall Openings.....	4-7
Practice 4a Model the Exterior Shell	4-10
Practice 4b Add Interior Walls	4-16
Chapter Review Questions	4-24
Command Summary	4-27
Chapter 5: Working with Doors and Windows	5-1
5.1 Inserting Doors and Windows	5-2
Practice 5a Insert Doors and Windows	5-6
5.2 Loading Door and Window Types from the Library	5-12
5.3 Creating Additional Door and Window Sizes	5-15
Practice 5b Load and Create Door Types	5-17
Chapter Review Questions	5-21
Command Summary	5-23
Chapter 6: Working with Curtain Walls	6-1
6.1 Creating Curtain Walls	6-2
Creating Storefronts	6-4
6.2 Adding Curtain Grids	6-6
Modifying Curtain Grids.....	6-7
Practice 6a Work with Curtain Walls	6-9
6.3 Working with Curtain Wall Panels	6-13
Creating a Curtain Wall Panel.....	6-15
6.4 Attaching Mullions to Curtain Grids	6-17
Modifying Mullions.....	6-18
Practice 6b Add Mullions and Panels to Curtain Walls	6-20
Chapter Review Questions	6-26
Command Summary	6-28

Chapter 7: Working with Views	7-1
7.1 Setting the View Display.....	7-2
Hiding and Overriding Graphics	7-3
View Properties	7-7
View Range.....	7-8
7.2 Duplicating Views	7-13
Duplication Types.....	7-13
Practice 7a Duplicate Views and Set the View Display.....	7-16
7.3 Adding Callout Views	7-20
Modifying Callouts.....	7-21
Practice 7b Add Callout Views.....	7-23
7.4 Elevations and Sections	7-27
Elevations.....	7-28
Sections	7-29
Modifying Elevations and Sections	7-30
Practice 7c Create Elevations and Sections.....	7-35
Chapter Review Questions.....	7-42
Command Summary	7-45
Chapter 8: Adding Components.....	8-1
8.1 Adding Components.....	8-2
Loading Components	8-3
8.2 Modifying Components	8-6
Working with Host Elements	8-6
Purging Unused Elements	8-7
Practice 8a Add Components	8-8
Chapter Review Questions.....	8-14
Command Summary	8-16
Chapter 9: Modeling Floors	9-1
9.1 Modeling Floors	9-2
Modifying Floors.....	9-4
Joining Geometry	9-6
Practice 9a Model Floors	9-7
9.2 Creating Shaft Openings	9-16
9.3 Creating Sloped Floors.....	9-17
Creating Multiple Slopes for Drainage	9-18

Practice 9b Add an Elevator Shaft and Slope Floors to Floor Drains	9-20
Chapter Review Questions.....	9-24
Command Summary	9-25
Chapter 10: Modeling Ceilings	10-1
10.1 Modeling Ceilings	10-2
Sketching Ceilings.....	10-4
Modifying Ceiling Grids	10-5
10.2 Adding Ceiling Fixtures.....	10-6
Practice 10a Model Ceilings and Add Ceiling Fixtures.....	10-9
10.3 Creating Ceiling Soffits	10-12
Practice 10b Create Ceiling Soffits.....	10-14
Chapter Review Questions.....	10-19
Command Summary	10-21
Chapter 11: Modeling Roofs	11-1
11.1 Modeling Roofs	11-2
11.2 Creating Roofs by Footprint	11-3
Attaching Walls to Roofs	11-5
Practice 11a Create Roofs by Footprint.....	11-7
11.3 Establishing Work Planes	11-13
11.4 Creating Roofs by Extrusion.....	11-16
Joining Roofs	11-18
Practice 11b Create Roofs by Extrusion.....	11-20
Chapter Review Questions.....	11-23
Command Summary	11-25
Chapter 12: Modeling Stairs, Railings, and Ramps.....	12-1
12.1 Creating Component Stairs.....	12-2
Creating Runs	12-3
Creating Other Types of Runs	12-6
Creating Landings	12-8
Adding Supports.....	12-9
12.2 Modifying Component Stairs	12-10
Practice 12a Create Component Stairs	12-13
12.3 Working with Railings.....	12-20
Modifying Railings	12-22

Practice 12b Modify and Add Railings	12-26
12.4 Sketching Custom Stairs.....	12-31
Editing Sketched Stairs	12-33
12.5 Creating Ramps.....	12-34
Practice 12c Sketch Custom Stairs and Ramps.....	12-36
Chapter Review Questions.....	12-41
Command Summary	12-43

Construction Documents Phase

Chapter 13: Creating Construction Documents	13-1
13.1 Setting Up Sheets	13-2
Sheet (Title Block) Properties	13-4
13.2 Placing and Modifying Views on Sheets.....	13-5
Practice 13a Create Construction Documents	13-10
13.3 Printing Sheets.....	13-16
Printing Options.....	13-16
Chapter Review Questions.....	13-20
Command Summary	13-22
Chapter 14: Annotating Construction Documents	14-1
14.1 Working with Dimensions	14-2
Modifying Dimensions	14-5
Practice 14a Add Dimensions	14-9
14.2 Working With Text.....	14-13
Spell Checking	14-16
Creating Text Types.....	14-17
14.3 Adding Detail Lines and Symbols	14-19
Using Symbols	14-20
Practice 14b Annotate Construction Documents.....	14-22
14.4 Creating Legends	14-27
Practice 14c Create Legends	14-30
Chapter Review Questions.....	14-32
Command Summary	14-34

Chapter 15: Adding Tags and Schedules	15-1
15.1 Adding Tags	15-2
Tagging in 3D Views	15-7
Practice 15a Add Tags	15-10
15.2 Adding Rooms and Tags	15-14
Practice 15b Add Rooms and Room Tags	15-18
15.3 Working with Schedules	15-24
Modifying Schedules	15-25
Modifying a Schedule on a Sheet	15-26
Practice 15c Work with Schedules	15-28
Chapter Review Questions	15-32
Command Summary	15-34
Chapter 16: Creating Details	16-1
16.1 Setting Up Detail Views	16-2
Referencing a Drafting View	16-4
Saving Drafting Views	16-5
16.2 Adding Detail Components	16-8
Detail Components	16-8
Repeating Details	16-10
16.3 Annotating Details	16-12
Creating Filled Regions	16-12
Adding Detail Tags	16-15
Practice 16a Create a Detail Based on a Section Callout	16-17
16.4 Keynoting and Keynote Legends	16-24
Keynote Legends	16-27
Practice 16b Create Additional Details	16-29
Practice 16c Create a Detail Based on a CAD File	16-31
Chapter Review Questions	16-38
Command Summary	16-40
Appendix A: Introduction to Worksets	A-1
A.1 Introduction to Worksets	A-2
Saving Workset-Related Files	A-4
Command Summary	A-6

Appendix B: Additional ToolsB-1

B.1 Reusing Selection SetsB-2

B.2 Wall Sweeps and RevealsB-5

B.3 Creating Curtain Wall Types with Automatic GridsB-8

B.4 Enhancing Views.....B-11

 Splitting Faces..... B-12

 Editing Wall Joins..... B-13

 Applying Materials..... B-15

 Adjusting Linework..... B-17

 Editing Plan and Section Profiles B-19

B.5 Creating DormersB-20

B.6 Working with Guide Grids on SheetsB-23

B.7 Revision TrackingB-25

 Issuing Revisions B-30

B.8 Annotating Dependent ViewsB-31

 Annotating Views B-31

B.9 Importing and Exporting SchedulesB-34

B.10 Creating Building Component SchedulesB-36

 Schedule Properties..... B-42

B.11 Creating a Repeating DetailB-43

Command SummaryB-45

Appendix C: Autodesk Revit Certification Exam Objectives.....C-1

Index Index-1