Autodesk Certified Professional in Revit for Architectural Design

Exam Objectives

Target audience

The Autodesk Certified Professional (ACP) certification is designed for candidates who have advanced skills and can solve complex challenges in workflow and design. This type of experience typically comes from having worked with the software on a regular basis for at least two years, or equivalent to approximately 400 hours (minimum) to 1,200 hours (recommended) of Autodesk software experience. Certification at this level demonstrates a comprehensive skill set that provides an opportunity for individuals to stand out in a competitive job market.

Candidates who obtain this certification will have demonstrated advanced skills in Revit in an architectural environment and will be knowledgeable in relevant workflows, processes, and project objectives. The candidate will have performed routine tasks involved in their job role with limited assistance from peers, product documentation, and support services. The minimally qualified candidate will have efficiently set up and managed a project and work in collaboration with colleagues. Successful candidates will have also used Revit modeling and documentation tools and methodologies to produce quality deliverables working with minimal supervision.

Prerequisite skills

It's expected that candidates will already know how to:

- Navigate the Revit interface.
- View and navigate a Revit model.
- Understand the concept of architectural 3D modeling.
- Create and modify basic 3D elements, annotations, and views.
- Demonstrate basic digital literacy skills.

Exam objectives
Here are some topics and software features that may be covered in the exam.

Note: Within the context of this exam series, all references to "create, select, manage, etc." indicate "know how to create, select, manage, etc."

1. **Modeling and Materials**
1.1 **Create and modify architectural and site elements**

1.1 a Work with walls and wall types

    i *May include creating and modifying compound, stacked, and linear curtain walls; wall alignment; editing a wall profile; layer wrapping; wall joints; embedded walls; sweeps and reveals; wall constraints; attaching a wall to a floor; and advanced editing of wall types.*

1.1 b Create and modify floors, roofs, and ceilings

    i *May include edge conditions; boundary conditions; slope; variable thicknesses; advanced editing of floor, roof, and ceiling types; and editing a ceiling grid to accommodate ceiling related objects.*

1.1 c Work with circulation elements: stairs, ramps, and railings

    i *May include creating a stair and landings by sketch; modifying an existing stair; and advanced editing of stairs, ramps, and railing types.*

1.1 d Cut openings in building elements

    i *May include openings in walls, floors, ceilings, roofs, structural beams, braces, and structural columns.*

1.1 e Work with columns

    i *May include placing and modifying columns on a grid; and understanding the difference between architectural and structural columns.*

1.1 f Understand the functions and limitations of model and detail groups

1.1 g Use massing elements

    i *May include knowing what a mass is and how to use the creation methods available: sweep, extrusion, revolve, blend, voids, etc.*

1.1 h Work with site and topography tools

    i *May include knowing how to use topography and building pad creation methods.*

1.2 Use and modify element materials

1.2 a Associate a material with an object or a style

1.2 b Create and edit a basic material and its properties

    i *May include understanding how material settings and properties affect the appearance of an associated element.*

1.2 c Load a material library

1.3 Use selection sets

1.3 a Create, edit, and load selection sets

1.4 Create and modify rooms and areas

1.4 a Create, edit, and delete rooms

    i *May include room constraints; area and volume computations; room separation lines; controlling room inventory; and understanding the impact of bounding elements.*

1.4 b Create, edit, and delete areas

    i *May include creating an area plan, adding area boundaries, and setting the area type.*

2. Families

2.1 Manage family categories and types

2.1 a Configure family types

    i *May include adding, renaming, and duplicating family types; and editing properties of a family type.*

2.1 b Understand concepts of family categories and types

    i *May include sub-categories, simple formulas, and nested families (annotation and model).*

2.1 c Differentiate between various types of families

 i *May include system, component/loadable, and in-place families.*

2.1 d Transfer system families between projects

2.2 Use family parameters

2.2 a Create or delete an instance or type parameter

2.2 b Determine the appropriate parameter discipline, type, and grouping

 i *May include text, number, Boolean (yes/no), etc.*

2.2 c Modify a room calculation point

2.3 Create family content

2.3 a Select the appropriate family template

2.3 b Add reference planes, lines, and dimensions

2.3 c Create geometry

 i *May include forms, symbolic lines, model lines, and visibility settings.*

2.3 d Associate dimensional parameters

 i *May include constrain, flex, align, lock, and labels.*

2.3 e Work with hosted and non-hosted elements in a model

 i *May include wall-based, floor-based, face-based, workplane-based, etc.*

3. Documentation

3.1 Annotate views

3.1 a Use Dimensions

 i *May include dimension precision; editing witness lines; locking/revealing dimensional constraints; spot dimensions; and custom dimension styles.*

3.1 b Create and modify annotation families for documentation

 i *May include creating labels and tags; and calculating values.*

3.1 c Use a matchline

 i *May include how to create a match line and assign a view reference.*

3.2 Create and use detail components

3.2 a Load and create a detail component family

3.2 b Add a detail component

3.2 c Define a repeating detail

3.3 Demonstrate an understanding of phases and design options

3.3 a Use phase filters

 i *May include an understanding of graphic display overrides and the use of phase filters.*

3.3 b Assign, display, and accept primary design options

 i *May include switching between design options and option sets.*

3.4 Use document revisions

3.4 a Understand sheet issues/revisions

 i *May include revision numbering; issuing a revision; showing the tag and/or cloud; and settings such as per project/per sheet.*

3.4 b Create a revision cloud

3.5 Configure export and print settings

3.5 a Configure export settings

i *May include export options, file format, and reports.*

3.5 b Configure custom print setup

i *May include hidden line views, saving configurations, and options.*

3.6 Work with color schemes

3.6 a Define and use area and room color schemes

3.6 b Create a color scheme legend

4. Views

4.1 Apply advanced view techniques

4.1 a Understand browser organization

i *May include discipline, phase, and view types.*

4.1 b Set view properties

i *May include view scale; locking views; view orientation (true north and project north); view range; underlays; temporary view properties; associating levels and views with a scope box; and applying a section box to control the display of a view.*

4.1 c Apply visibility/graphic overrides

i *May include element visibility (not including Analytical); filters; graphic overrides for linked files and object styles; and controlling workset visibility.*

4.1 d Apply and edit view templates

i *May include understanding the importance of using view templates; the implications of altering existing view templates; and temporary view properties.*

4.1 e Create and manage call-out views

i *May include detail views, reference views, and modifying sketch boundaries.*

4.1 f Set up a view for rendering

i *May include perspective and camera views; shading; lighting; and basic rendering.*

4.1 g Set up a sheet

i *May include adding a title block, view alignment, guide grids, and adding revisions on sheet.*

4.1 h Apply worksharing display modes to a view

4.1 i Use duplicate views

i *May include understanding the difference between independent and dependent views; creating dependent views; and applying dependent views.*

4.2 Manage, create, and modify schedules

4.2 a Develop and customize schedules

i *May include material takeoffs, sheet lists, etc.*

4.2 b Manipulate schedule data

i *May include fields; filters; sorting/grouping; formatting (including conditional formatting); itemize every instance (or not); and adding calculated/combined parameters.*

5. Revit Project Management

5.1 Link or import files

5.1 a Understand the difference between imported and linked files

    i   *May include CAD files, images, PDFs, and positioning.*

5.1 b Manage linked files

    i   *May include adding at the proper position, removing, loading, and reloading.*

5.1 c Understand the concept of copy and monitor elements from a linked file

    i   *May include how to conduct a coordination review.*

5.2 Define worksharing concepts

5.2 a Understand why worksharing features are used

    i   *May include worksets; central file; file synchronization; element borrowing/relinquishing and cloud worksharing.*

5.3 Use levels and grids

5.3 a Modify level and grid types

5.3 b Edit level and grid properties

    i   *May include 2D and 3D level extents.*

5.4 Transfer project standards and establish shared coordinates

5.4 a Transfer and review project standards

5.4 b Understand the concept of shared coordinates

    i   *May include an understanding of project and survey points; internal origin; and acquire/publish.*

5.5 Edit object styles

5.5 a Control the appearance of elements at a project level

    i   *May include object styles; line styles (patterns, weights, colors); halftones/underlay; and understanding the element visibility hierarchy.*

5.6 Conduct maintenance on a Revit project

5.6 a Understand and use purge

    i   *May include understanding the results of purging a model using Purge All and Purge Selected.*

5.6 b Understand and use the audit and compact tools

    i   *May include an understanding of how to use the tools as well as when and why it is important to use them.*

5.6 c Assess review warnings in Revit

5.6 d Check a model for interferences

    i   *May include understanding the principles and importance of Interference checks.*

5.7 Understand shared, project, and global parameters

    i   *May include understanding the use of shared, project, and global parameters.*