AUTODESK

Autodesk Certified Professional in Revit for Structural 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 Revit on a regular basis for at least two years, which is equivalent to approximately 400 hours (minimum) to 1,200 hours (recommended). 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 a structural 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 structural 3D modeling.
- Create and modify basic 3D elements, annotations, and views.
- Demonstrate basic digital literacy skills.

Exam format

You won't have access to the software during the exam, as all questions are in a selected response format and are designed to be answered without the software. Learn more about our exam format and question types in the [Autodesk Certification FAQs](#).

Exam outline

This table lists the main content domains and their weightings, followed by the complete exam content outline.

Exam domain	% of exam
Modeling and materials	20%
Families	18%
Documentation	22%
Views	18%
Revit project management	22%

Exam objectives

Here are some topics and software features that might be covered in the exam.

1. Modeling and materials

1.1 Create and modify structural elements

1.1 a   Work with foundations

i. May include wall foundations, foundation slabs, foundation properties, isolated footings, piles, and pile caps.

1.1 b   Work with structural floors

i. May include slab edge conditions, floor boundary conditions, slopes, variable thicknesses, openings (regular and shaft), and advanced editing of floors.

1.1 c   Work with structural walls and wall types

i. May include creating and modifying compound and stacked walls, wall alignment, editing a wall profile and wall type, sloping and variable thickness walls, layer wrapping, wall joins, wall constraints, and attaching a wall to a floor.

1.1 d   Work with structural columns

i. May include placing and modifying structural columns on a grid, slanted columns, column constraints and properties, and knowing the difference between architectural and structural columns.

1.1 e   Work with structural framing and connections

i. May include beams and beam systems, trusses, vertical bracing, joists, girders, purlins, horizontal bracing, coping, concrete framing, framing properties, framing constraints (attach framing to columns), and points (nodes).

ii. May include standard structural connections, loading and placing steel connections, and modifying steel connections.

1.1 f   Work with stairs

i. May include creating and editing structural stairs (concrete, cross laminated timber), creating a shaft, and creating stairs and landings by sketch.

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

1.1 h   Work with reinforcement tools

i. May include general reinforcement settings, rebar covers, reinforcement rounding, reinforcement presentation, rebar propagation, area and path reinforcement, and varying rebar set.

ii. May include shape-driven rebar modeling (Shape Library, Sketch Rebar), freeform rebar modeling (Aligned and Surface distribution), area reinforcement, path reinforcement, fabric reinforcement, rebar sets, rebar constrains and host covers, rebar coupler, rebar and coupler numbering for schedules and annotations, reinforcement partitions, numbering sequences, reinforcement rounding, and bar presentation in a rebar set.

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

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 family categories and types

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

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.

2.3 Create family content

2.3 a   Select the appropriate family template

2.3 b   Export a family to create a type catalog

2.3 c   Add reference planes, lines, and dimensions

2.3 d   Create geometry

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

2.3 e   Associate dimensional parameters

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

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, tags, beam annotations and span direction symbols, and calculating values.

3.1 c   Create legend views

    i. May include creating legends, adding legend components, and modifying legend component properties.

3.1 d   Annotate rebar

    i. May include single tags, multi-rebar annotation tags, and rebar bend sketch.

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.

4. Views

4.1 Apply advanced view techniques

4.1 a   Use browser organization

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

4.1 b   Set view properties

i. May include view scale, locked views, view orientation (true north and project north), view range, underlays, temporary view properties, levels and views for 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 (including Analytical), filters, graphic overrides for linked files and object styles, and workset visibility control.

4.1 d   Apply and edit view templates

i. May include altering existing view templates, and temporary view properties.

4.1 e   Create and manage elevation and call-out views

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

4.1 f   Set up a sheet

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

4.1 g   Apply worksharing display modes to a view

4.1 h   Use duplicate views

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

4.2 Manage, create, and modify schedules

4.2 a   Develop and customize schedules

i. May include material takeoff, sheet lists, graphical column schedules, and rebar schedules.

4.2 b   Manipulate schedule data

> i. May include fields, filters, sorting/grouping, formatting (including conditional formatting), itemizing every instance, 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 files at the proper position, and removing, loading, and reloading files.

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   Identify the uses for worksharing

> 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   Describe shared coordinates

> i. May include 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 the element visibility hierarchy and sub-categories.

5.6 Conduct maintenance on a Revit project

5.6 a   Use purge tools

5.6 b   Use the audit and compact tools

5.6 c   Assess review warnings in Revit

5.6 d   Check a model for interferences

5.7 Understand shared, project, and global parameters